AMERICAN Cinematographer

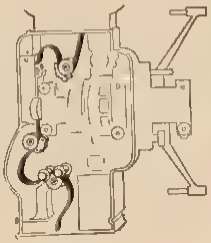
25¢ FOREIGN 35c

☆ THE MOTION PICTURE CAMERA MAGAZINE ☆

25th Anniversary Issue—November, 1945

(No 12 of a series on the manufacture of Du Pont Motion Picture Film)

Slit to fit



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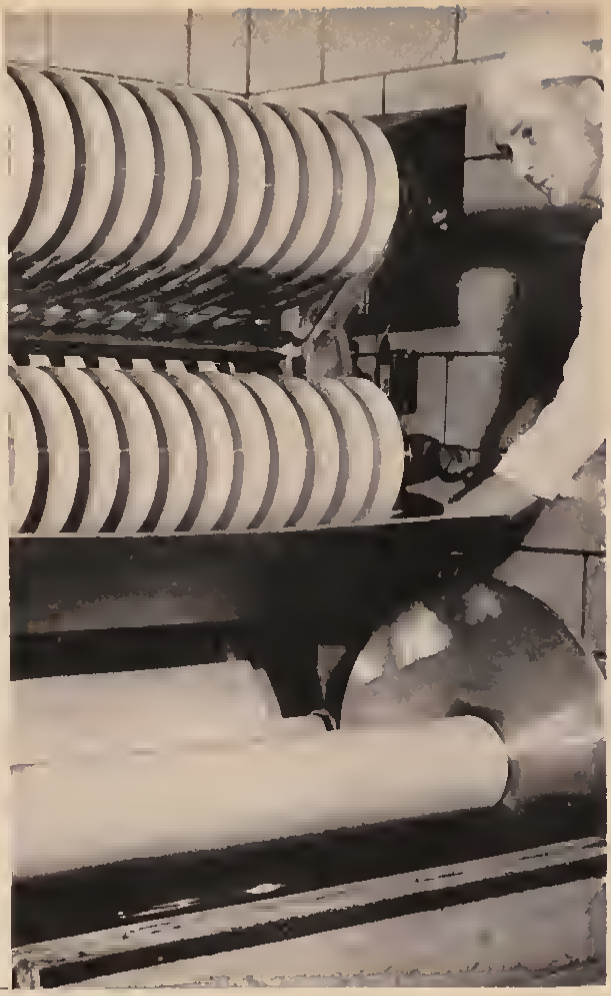

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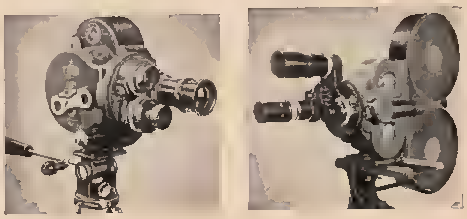

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AMERICAN CINEMATOGRAPHER

THE MOTION PICTURE CAMERA MAGAZINE

VOL. 26 NOVEMBER, 1945 NO. 11

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ON THE FRONT COVER is a photograph on the set of Warner Brothers' "Confidential Agent" showing Director Herman Shumlin rehearsing Lauren Bacall in a scene for the picture. Director of Photography, James Wong Howe, seated, watches. Photo by Pat Clark.

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News Notes from the Studios Where the Films Are Made and Mention of Recent Releases

BUILDING IMPROVEMENTS

Leonard Smith

25 Years of Service

By LEONARD SMITH

President American Society of Cinematographers

TWENTY-FIVE years ago this month the first issue of the American Cinematographer came off the press. As magazines go, it was not a very impressive looking publication, as you may see from the reproduction on the opposite page of page one of that first issue. Impressive or not, it was the start of a sincere move on the part of the members of the American Society of Cinematographers to render a service to its members and to other cinematographers.

We members of the ASC were mighty proud of that first issue. We had talked and talked about creating some sort of a publication, and here, at last we had one. What we did not know then was how great the influence of our magazine was eventually to become. Little did we dream that some day the American Cinematographer would be read each month in all parts of the world, that thousands upon thousands of home movie makers would look to it for inspiration and guidance, and that professional cameramen in foreign lands would eagerly await each issue to learn the latest scientific developments in the American field of photography, together with news of allied subjects, such as sound, laboratory and projection.

I suppose the magazine at the start was just a house organ, designed to keep all the members of the ASC acquainted with what their fellow members were doing. But gradually the little publication began to change, both its format and its contents. In it the members began to find scientific news. Soon it was awaited by the members for its technical and scientific reports as well as its news. From a four-page paper it gradually grew into magazine form, with highly technical articles by the world's greatest scientists and experts in cinematography, optics, lighting and allied fields. Coated book stock replaced the cheaper paper, and physically it assumed magazine form. It had arrived.

Gradually cameramen in other parts of the United States began subscribing for it, and in due course of time it was being read by members of the profession in all American centers where motion pictures were made. Then the big commercial organizations who manufactured photographic equipment and film recognized its value as an advertising medium. Eastman Kodak, Bell & Howell Company, National Carbon, DuPont, Goerz, J. E. Brulatour, distributors of Eastman Films, Smith & Aller, distributors of DuPont Films, the Mitchell Camera Company, Mole-Richardson and many others were among the first to place their advertising in its columns.

A file of the Cinematographer from its beginning to date contains perhaps more technical history pertaining to cinematography than that of any other journal. Since its inception the magazine has been the first to carry the story of every new development that pertains to photography in any way. In its pages have appeared the detailed announcement and description of every development in cameras, lighting equipment, film, optics, special effects and process photography, together with articles dealing with new methods and inventions.

In 1929 the magazine, recognizing the need for imparting technical information to the rapidly increasing number of home movie makers, started publishing articles slanted toward the amateur, with particular emphasis on the advanced amateur. Then an entirely new group of readers came into existence. Amateurs by the thousands began reading the magazine because nowhere else could they find instructive articles written for them by professional motion picture cameramen, men who gave of their rich experience to help the amateur make better amateur films. The magazine has solved the problems of untold numbers of home movie makers who could find their answers nowhere else.

And then the manufacturers of 16mm and 8mm equipment joined those making professional equipment in placing their advertisements in the Cinematographer. As circulation and advertising increased, the ASC increased the size and the quality of the publication, with the result that today subscribers to the Cinematographer are found in more than twenty foreign countries and in every State in the Union.

We of the American Society of Cinematographers are proud of our publication, proud of the service it has rendered during the past quarter of a century. We promise every reader and every advertiser that we shall continue in the same spirit to constantly improve the magazine and make it even more valuable with each passing year.

25 Years of Progress

By FARCIOT EDOUART, A. S. C.

VIEWING the Motion Picture Industry from today's vantage point is a Janus-like experience. Any conjecture we might make as to this great industry's future, and any reminiscing we might indulge in as to its past, is thought-provoking. From out of our past grows our future, we are but stepping stones for those who will follow us. Considering the achievements of the past, we feel safe in predicting great things for the future. Planning ahead, we look back and acknowledge those "old masters" who have made this industry possible.

It is not enough to say that the past ten, twenty or even twenty-five years have seen almost unbelievable advances over their earlier predecessors. It is only half-truth to say that we have made gargantuan strides toward our goal for a finer, a more entertaining and a more nearly perfect product. Sound on film was revolutionary in 1927 when it was introduced, yet even its advent could not overshadow the obvious fact that it, and every other development in the motion picture industry, is only the natural outgrowth of what has gone before.

We are forever indebted to those pioneers in photography, who, long before motion pictures were dreamed of, devised methods and had ideas which later became the very warp and woof upon which this great entertainment medium was built. Many of those men spent long years of study, research, experimentation and development. Not a few obtained patents on their work, but for every man who patented his findings, there were dozens who received no mention at all. Yet they, too, contributed to what was later to become the fifth largest industry in the United States.

Today, the Motion Picture Industry has become both an Art and a Science, profoundly affecting not only our individual and national lives but is international in aspect as well. It is an invaluable tool and pattern to those working in other associated Arts and Sciences. There are few activities of civilized man today in which the advent of motion pictures has not made its influence felt or played some part.

Outside of war itself, there is no other industry that requires the diversified application of so many branches of technical knowledge, and the employment of so many of the Arts and Sciences to complete its production. Here, above all other industries, we seek and welcome basic knowledge and experience, and the ability in scientific blending of practical and theoretical methods. There has been developed a Science of Motion Picture Photography with a literature, a terminology, and an instrumental technique of its own.

From the start, the Cinematographer or Director of Photography has used light to make his picture. All ideas and mental pictures must be translated into visible, tangible form through the medium of light. How he uses it has changed fully as much as anything else. In the early days, illumination was all that was required, whether it was supplied by the sun or by artificial sources. Today, mere illumination is secondary to lighting, painting the picture with light-beams to create an illusion of depth and roundness in a picture which is really flat and seen on a flat surface.

Natural color has fast developed in importance and it is no conjecture to say that the time is not far distant when most production will be photographed in color. As far as the Cinematographer is concerned, color brings new problems over black and white production as well as many new and exciting possibilities. Our ultimate goal is to produce truly stereoscopic motion pictures in all their realism of natural color and depth.

In order to better understand the developments of the past twenty-five years, let's look back and briefly review the history of some of those early pioneers and their patents. In 1874, for instance, a man named Coolidge obtained a patent on a matte process, used for stills. We have and use substantially the same process today, ours is merely an outgrowth and refinement of his method.

Then in 1892, a patent was issued to Seymour for a back projection process. This process was designed for use with the stereoptican and combined a projected image and an actor. We've incorporated and utilized his idea.

Another name, one of the greatest of importance, in the advent of motion picture history, is that of Thomas A. Edison, who, back in 1892, invented a contraption known as the Kinetoscope, which device applied the "persistence-of-vision" factor of the human eye to retain an image, thus utilizing a natural human function which makes motion photography possible. It revolutionized the art of story-telling, and with it Edison gave to the world the forerunner and first practical application of make-believe. That possibility of creating an international make-believe medium of entertainment was destined to become the great Motion Picture Industry, which today represents an investment of well over two billion dollars.

Working with Edison to bring motion pictures into being was Dickson, making pictures that employed double exposure and masking along the lines of the Coolidge process.

Then, in 1896, another name loomed large on the horizon. George Melies, a Frenchman. From 1896 until 1906 Melies produced over 200 "trick" films. They were very short and ran from one to two minutes. Melies, who had started his career as actor, theatrical technician and professional magician, applied his varied skills to the new medium, and made two important contributions to the motion picture industry: the lap dissolve and multiple exposure.

He used combinations of miniatures and a form of cutouts and some of his effects required up to ten exposures. Crude as they were, they were nevertheless the forerunners of our present-day methods. Melies produced highly imaginative stories such as "Gulliver's Travels," "Blue Beard," and many fairy tales. To him must also go the credit for producing the first motion picture with a musical score at its opening. That was "The Kingdom of the Fairies," the most ambitious film up to that time. Produced in 1906, it ran 1223 feet and cost the staggering sum of $7500.

One of Melies' contemporaries, an Englishman named Robert Paul, produced much the same sort of film, the best known of which was "The Haunted Curiosity Shop." Incidentally, there still exists in Hollywood, some of Melies' first pictures, and when the Motion Picture Museum is an actuality, it is planned that duplicates made from these old films will be placed therein.

In the years that followed these early experiments, many ideas and methods were evolved. But it is worth noting that many of our present-day processes —masking, dissolves, double, triple and quadruple exposures, ghost shots, split screens, etc. etc.—mostly date back to old basic methods. We have merely amplified, refined and improved upon them and brought them up-to-date.

The "glass shot" as we know it today in Motion Picture parlance was patented and first used by Walter Hall, who came to Hollywood in 1916 to work with D. W. Griffith on his picture "Intolerance." Hall had been a sign writer and scenic painter on the New York stage, and he was an expert on perspective. It was for "Intolerance" that he utilized painted cutouts and glass shots and perfected them for motion picture use.

Prior to Hall's invention, in 1912 Engelsman had patented a process combining actors and painting on glass. And even further back than that, in 1864 Calhcott patented a glass process which was used for stage illusions. That, of course, was long before motion pictures had even been thought of or come into being.

I harken back to these old patents merely to drive home a point, which is simply this: while we have made rapid strides in our profession, we, in the main, have been evolving improvements on basic ideas conceived years before, many of them before the advent of motion pictures. Our task has been one of, not pioneering so much, as it has been one of broadening the application of old principles, of modernizing, of developing and refining what these other men have passed on to us.

It is no reflection against our present-day technicians that we look to the past in this manner. Every phase of the Industry does that. The actor, for instance, looks back to the old Greek drama, studies the classics, learns Shakespeare. Like everything else, the acting profession

has evolved along the way, has developed new techniques, or in borrowing from the older drama, has adapted and modernized it to present needs

Our musical departments do likewise Beethoven and Wagner are still very much in evidence in musical scores, and although our composers bring to the screen much that is new and original they also wisely draw from the rich musical heritage and reservoir of the past In much the same way do we technicians look back to our own "old masters" and realized that they paved the way for our present high standards and accomplishments

And now, coming up to more recent years, we have Frank Williams, patenting one of the first variations of the matteing process in 1918 In 1922 Max Handschiegl obtained a patent using complementary color as a matteing process

One of the comparatively few new ideas to be introduced in the past 25 years was the complementary matte idea Entirely new, it was nevertheless short-lived, and has now mostly been superseded by the rear projection or transparency process

In the early days of the silent "movies," audiences found a new medium of entertainment and flocked to the theaters to see them Great pictures like Griffith's "Birth of a Nation" and "Intolerance," C B DeMille's "The Squaw Man," etc etc., and the early films of Mary Pickford, Marguerite Clark, Douglas Fairbanks, Charles Chaplin, George Arliss, John Barrymore, Eric Von Stroheim and a host of others—all were highly successful

The legitimate stage, which for years had held the imagination of the public, had gradually lost its place of eminence to its younger sister, the "flickers." Even vaudeville had come and gone, and remained practically only a memory

And then, just as suddenly as silent motion pictures had soared to fame they hit a snag. There was something missing, the novelty of the pantomime was wearing off The screen had neither the tradition nor the color of the legitimate theater. Screen plays were becoming stereotyped and standardized There were no live actors or live action to sustain the interest. Frankly, silent pictures were stagnating. As an entertainment medium, they had gone as far as their horizons could reach It became obvious that, if they were to continue to please a fickle public's taste, something drastic would have to be done somehow New life must be injected into motion pictures to make them more interesting —to make them live

And so, in 1927, as though by a miracle, the "talkies" were born Sound was not new, Edison had used it, so had Melies. But synchronized voice and sound on film was revolutionary. Never before had this kind of sound been used as an integral part of picture making No mechanical invention heralded its coming, no single technical development spelled its success Sound was made possible by the development of electrical recordings and reproduction from disc

Faciot
Edouart

phonograph records, plus the advent of the vacuum tube Created of a fusion of electronics, acoustics, optics, photography, new laboratory practices, mechanics, and electrical phonograph recording, the science of motion picture sound-reproduction drew freely upon the accumulated knowledge of workers in all of these fields for its existence

Almost overnight it transformed the entire motion picture industry There was a frantic scramble to secure the equipment for large-scale production of talking motion pictures Hollywood was in a turmoil. No branch of the industry remained untouched Silent motion pictures had been dying, atrophying, with sound they were rejuvenated—came to life again

And close on the heels of sound, two other new developments arrived almost simultaneously Panchromatic film and Incandescent lighting They fitted perfectly in the over all picture—in fact, were a necessary adjunct of sound, since sound had effected the lighting then in use.

Rejuvenation and conversion was evidenced in every phase of the Industry, for example

Photography Open cameras for silent films were noisy and could no longer be used, since the sensitive equipment picked up every slightest noise Open cameras had to be discarded, or boxed in and soundproofed

Lighting With silent films we had been using arc lights The fact that they sputtered and whined made no difference then, but with sound, that sputtering was picked up and presented a major recording problem. And so Incandescent lighting was devised and utilized. One of our greatest lighting problems in the early days of sound engineering was due to the fact that we were required, or so we thought, to shoot long shots, medium shots and close ups simultaneously If there were two or three principals in the cast, it necessitated possibly having four or five cameras on the set, which we soon found to be unnecessary. Also, now, choke boxes for the arc lights make them quiet and once more available for our uses.

Film, Orthochromatic Film had been used, and it was satisfactory for use with arc lights, which burn on the blue end of the visible spectrum. Panchromatic Film, being sensitive to the full range of the visible spectrum, thereby made possible the use of Incandescent lighting, burning as it does on the red end of the visible spectrum

Special Photographic Effects Silent films were shot at a speed of 16; sound is shot at a speed of 24, which had been set up as a standard for sound This represented more problems and well—trick shots were mostly by passed at the start

Laboratories It was necessary to develop for sound as well as for the picture and here is where real and precise gamma control entered as a required laboratory function.

Sets Silent stages could be noisy, and no harm done, Sound called for soundproof stages, and all stages had to be reconverted Floors and walls had to be silenced Even the air-conditioning sys-

(Continued on Page 378)

Aces of the Camera

Glenn R. Kershner, A.S.C.

By Louise Doty Carle

"ADVENTURE," says Glenn R Kershner, A.S.C., "is like a drug It lifts you up into the most exciting realms of existence, and then lets you down adrift, sometimes penniless, and leaves you with the urge to set forth again and again As a trade, it can break you financially, but never make you rich!"

Globe-trotter Kershner's first yen for adventure at the age of fourteen culminated in an unsuccessful attempt to "join up" during the Spanish American War His father caught up with him, and dug him out of a pile of straw behind a mule corral When once again under the family's guiding hand, he was put to work in an oil field.

For two years, young Glenn worked in the oil fields, meanwhile laying careful plans for another escape into the exciting world that lay beyond his home town, Findlay, Ohio He contrived a plan for working his way across the country as a one-man band

He travelled west via Cripple Creek and Leadville to San Francisco, and at the age of seventeen, was earning a makeshift living playing in Barbary Coast honky-tonks His band was ingenious to say the least He rigged up a mouth-harp suspended by wires from his shoulders played a guitar, and banged on a unique percussion instrument made of tin pie plates attached to the inner sides of his knees

Life was too tame for the boy, however and he itched to travel somewhere, perhaps China or the South Seas, where he could use the precious long focus Premo that was then his prized possession. He settled for Alaska and the Klondike, but not having the necessary thousand dollars for passage, he made three unsuccessful tries at stowing away in Alaska-bound vessels.

The third time, he was tossed unceremoniously from the boat to the wharf and landed—hard—right at the feet of an astonished sailor, who promptly signed the boy for a run to South America on his three masted sailing ship.

Glenn had just mastered the first rudiments of sailing On calm days, he loafed and daydreamed of the magnificent scenery of South America, and the wealth of material it held for a photographer An ill-timed storm blew up off Ensenada and left a beaten boat and a beaten boy stranded on the shores of Mexico! He started back to the states on foot The grueling trip back evidently satisfied his yen for adventure He returned to his home in Ohio and studied music in a conservatory There he learned to play the flute

In 1914, when Henry Ford sent a very fine band on a tour of the United States, Glenn Kershner went along—as flute soloist From there he was placed in Ford's newly organized Photographic Department, where he made the famous animated cartoon depicting a boy smoking a cigarette and turning into a coffin

It was in the Ford laboratories that Kershner's photographic career began During the first World War, he was assigned the task of filming airplane construction from start to finish "Slim" Lewis, famous test pilot, and Kershner once flew a sputtering plane 5700 feet into the air, and set the plane into a tail spin. Kershner ground away at his camera while "Slim" pulled the plane out of the spin about 500 feet from the ground When the film was flashed on the screen, Kershner counted twenty-two complete spins.

In early 1918, the young photographer took time out from his regular duties with Ford to film a picture, half of which was recorded in Mexico, and the other half in the United States It was probably one of the first "good will" trips ever made into Mexico

Arriving by train at Hermosillo, where he was to meet a fellow American, he unloaded his paraphernalia and wandered around the station platform His friend was not there to meet him. Several dark-eyed Mexicanos crowded

(Continued on Page 400)

The Technique Of The Documentary Film

By HERB A. LIGHTMAN

THE documentary film is at last coming into its own. The demands of war, which resulted in the vast speeding up of various fields of scientific development, also gave a shot-in-the-arm to the particular brand of filmic journalism we call "documentary."

We have seen such films as "Attack!", "Fighting Lady," and "The True Glory," filmed by cameramen of the armed forces. We are also acquainted with the "March of Time" and "This Is America" series released by RKO Studios. Films such as these have been very successful in keeping the fighting man as well as the folks back home well informed as to America's part in the war.

We may look forward to seeing this type of film, which has been so useful during the war, become a potent medium for recording the new era of peace and reconversion. But what, exactly does the word "documentary" mean. What is it that sets this type of film apart from other types of motion pictures: the newsreel, the training film, the photoplay?

First of all, the documentary film is not merely a "record" film. It goes beyond the plain recording of facts. Rather, its function is to picture and evaluate varied phases of our contemporary social scene—not just the shabby side, but all sides. Unlike the newsreel which presents facts strictly as they happen, the documentary goes behind the scenes, asks "why?", analyzes the factors involved, and usually arrives at a conclusion based on the facts.

Like the newsreel, it is a form of cinematic journalism, but whereas the newsreel resembles an average news item that sketches the facts, the documentary can be compared to a newspaper feature article that treats the subject with a much wider scope.

It differs, too, from the training film which tells *how* to do this or that—also from the photoplay, the main function of which is entertainment. And yet, it has some elements of all these types: the newsreel, the training film, and the photoplay.

The documentary is not so much like a mirror that reflects life exactly as it is, it is more like a realistic painting that takes the facts, groups them into a forceful composition, and adds the color of its own particular technique, thus enriching the observations that are made.

Its function may be historical, educational, or purely informative. But in any case, it is a social force to be respected. Like all social forces it could be misused, could become an instrument of clumsy propaganda. It is the responsibility of the documentary film maker to guard against this and to present only the truth on film.

The Concept

The documentary motion picture depends upon an *idea*—that is its only reason for being filmed. But the idea must be worthy of the medium, it must be important enough to hold the vast audience that will see the picture. A trivial idea will never make a forceful film, no matter how clever the screen technique used in filming it.

Once the idea is conceived, an *aim* automatically follows. You want to put your idea across to an audience for a certain reason. That *reason* is your aim. An analysis of the idea, plus the aim, will then determine what "approach" is to be used in putting the story on the screen.

Approach is important. A bad approach can ruin even the best cinematic idea. But an approach keyed to positive audience reaction that every film reaches out for.

Ideally, the documentary should deal with people in relationship to their everyday lives and surroundings. While the choice of idea subject matter is unlimited, it is human interest that gives life to any film. All of us are more interested in people than we are in inanimate objects. This holds especially true on the screen, a medium that demands human action.

We have said that the documentary is a realistic medium, and so it is. But reality in everyday life is often undramatic, events occur at random, and at widely separated time intervals. Therefore, what we strive for on the screen is *realism* rather than *reality*. We take the elements of the true situation, but point them up selectively, tighten up the time lapses, and often re-arrange the sequence of events for more forceful effect.

The documentary should arrive at some sort of a conclusion. Either it clearly presents both sides of an issue and ends up by letting the audience form its own opinion on the basis of the facts presented, or it takes a question and proceeds to answer it in terms of the facts depicted.

In any case, it should be truthful, should avoid dogmatic stands on controversial issues, and should steer clear of misleading propaganda.

The Script

Once the concept of the film is clear, the next step is the writing of the script. As in all types of filming, a definite screenplay should be written, for the script is the backbone of the documentary.

We will not go into the format of the screenplay here, because everyone who films documentary seems to have a different system of putting it on paper. But certain forms are common to all styles. Each scene should have an individual number, and each sequence (a separate set of scenes) should have a sequence letter.

The script should be written in greatest detail, incorporating camera directions, directorial touches, special effects, and even set-up diagrams. The more complete the script, the better chance the director will have of getting exactly what he wants on the film.

But the screenplay should be flexible enough to allow for changes and additions, since the situation when encountered may be vastly different from what it seemed to be when the script was written.

This is one reason why the screenplay should be written only after thorough research has been done on the subject. "Know your subject" is a rule that cannot be overemphasized. Only when the film-maker knows all the facts involved will he feel truly at home in his subject.

A well-written script is tightly knit. It follows a definite kinetic pattern, being careful not to go off on tangents. It should start at a level that is familiar and understandable to the audience for which it is being filmed.

Beginning at this common level, it gradually introduces less familiar facts of the situation, building all the while to a final and logical climax. Each sequence, as an entity in itself, builds toward a conclusion, but all contribute to the main point which is established toward the end of the film.

In the course of this pattern, the story should move ever forward, using cautiously such complex devices as flashbacks, and being careful not to repeat itself unless such repetition is skillfully planned for effect.

A direct, coherent, and well-integrated script is the framework for an intelligent and interesting picture. Careless screenwriting can only result in a sloppy film.

The Director

The director of a documentary film is the guiding force of the production. He is not as specialized as the director of a Hollywood photoplay. Rather, he is often his own producer, as well as collaborator on the screenplay. The success or failure of the picture depends upon how successfully he integrates the various factors involved in filming.

Direction of a documentary is not a simple affair. The director must keep the original concept as well as the approach of the film in mind at all times. While telling a story that is factual and of social importance, he must yet inject enough showmanship to hold his audience.

The *realism* we spoke of earlier, the feeling that something significant is actually taking place, depends upon the director's ability to keep his action simple yet dynamic. He must be *selective*, capable of extracting those elements of the situation that are most meaningful, and of emphasizing them on the screen.

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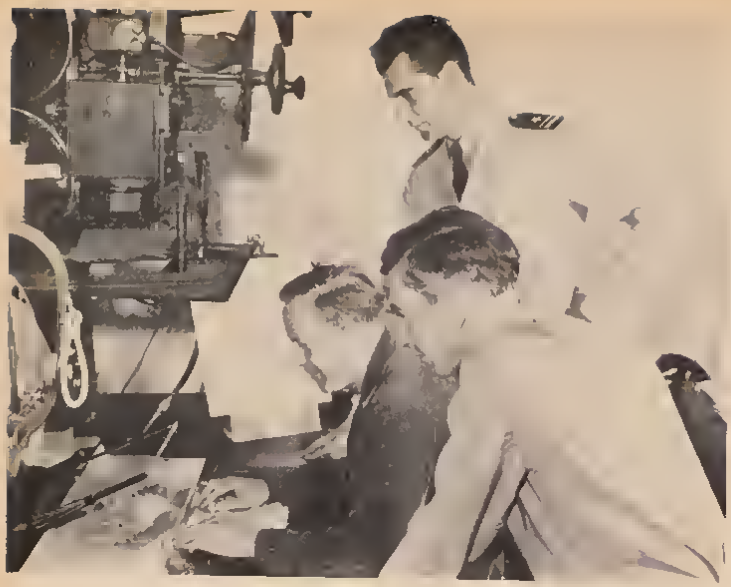


Left: Operator Fred Weaver, Director Dick Lundy and Technical Supervisor Lt. Arthur Elliott at the animation camera used to photograph "Enemy Bacteria". Bottom left: Walter Lantz and Lt. Elliott watch Vivian Jean tracing celluloids from drawings. Bottom right, going over the story board are Lantz, Lundy and Elliott.

Lucite and Lantz Came Through For The Navy

By HILDA BLACK

PRACTICALLY every moviegoer is familiar with Walter Lantz Cartune characters: Woody Woodpecker, Andy Panda, Wally Walrus and the others. But comparatively few people know anything about Lantz' cooperation with our government in turning out twenty-two training films for the U. S. Navy. And they're worth hearing about, too, because among other things, a new method developed during their production, has opened up hitherto unexplored fields in the realms of education and industry.

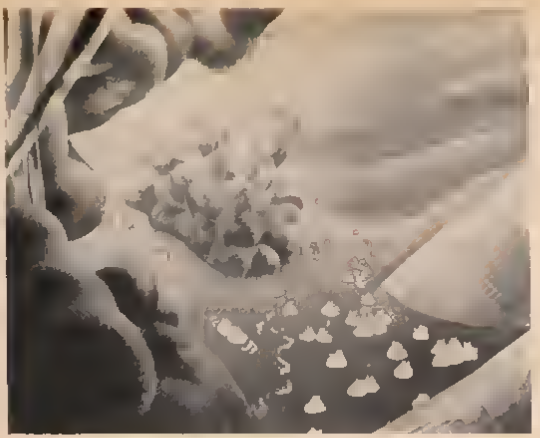
Lantz himself, quiet, pleasant, unassuming, has made his entry into the motion picture industry's Hall of Fame in a completely unorthodox and uniquely un-Hollywoodish manner. In a town where short contracts are the rule and frequent turnover of personnel is the expected thing, Walter Lantz is unusual. For he has a phobia against job-changing and traces his connection with Universal Pictures through seventeen uninterrupted years of successful growth. In fact, Lantz' tenure at that studio dates back to the regime of "Uncle" Carl Laemmle, its founder.

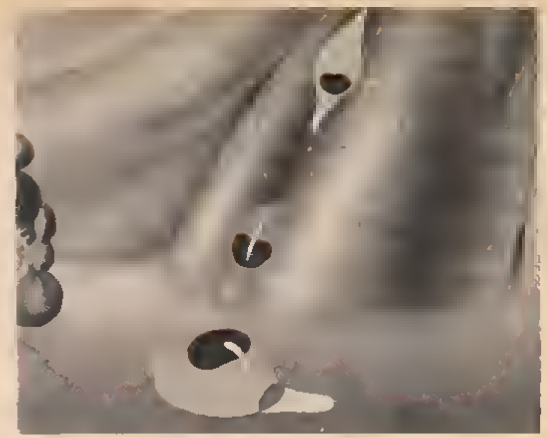
When Lantz and his staff first undertook the job of turning out training films for the Navy they found they were up against a towering obstacle. Time, spelled with a capital T. Those pictures had to be turned out, not only well, but, as Lantz says, "Yesterday!"

With Germany and Japan undefeated, there was no question of "take your time, boys, and give us a good job." The government couldn't afford to sit quietly by and wait for training films. New recruits had to be given the quickest possible instruction, those boys were needed on the battlefield, in the air, on the water and under the water. And—they had to be well trained.

That's where the motion picture industry came in. Hollywood had facilities and the "know how" of telling a story—any story, whether romance, comedy or instruction to kill—better than could be done through any other medium. The government knew it; negotiated and gave contracts to carefully selected Hollywood producers to furnish the needed pictures. Those were important films to all of us! Films rushed to training centers throughout the country where they would play a major role in the gigantic job of equipping American boys for the grisly business of war. Films that would hurry the day of total annihilation of our enemy, and bring our boys safely home again.

And so "speed" and "rush" became the order of the day. With every split second precious, Lantz knew he was up against a tremendous responsibility. He estimated that the first picture alone (which dealt with bomb fuses) would take a whole year to produce, if old methods of animation were employed. Obviously, a new method had to be devised, a method that would save time.





Top left Staphlococi coming into the live flesh floating in plasma Bunchy matter in rear is blood clot Checkerboard substance at right is live flesh Above enter the Leukocites to counterattack infection Bottom left Leukocites attack the staphs Bottom right Streptococus sitting on a dried up corpuscle

yet not lessen the efficacy of the film And so he and his staff entirely discarded old ideas of cartoon animation and set to work to discover that "new method"

First, it was decided that, wherever possible, actual parts of the bomb fuse would be used For other parts of the fuse plastic was employed, thus making it possible to photograph right into the fuse and show its actual workings The almost microscopic parts were then enlarged so that they and their functions were clearly discernible. Workings of the fuse were shown in stop-motion Incidentally, all of the machine work was done in the Lantz studio

By thus showing the various mechanical devises set in plastic, the Navy recruits did not have to guess or imagine how a bomb fuse worked—they got a true picture of its actual operation Of the twenty-two Lantz training films, eleven were on Bombs and Bomb Fuses.

Other films included "Enemy Bacteria"—the only training film they made in color—and pictures on torpedo instruction "Enemy Bacteria" combined live action with animation and was shot on Monopack film, a system that requires a single exposure process similar to Kodachrome. It represents a considerable saving on original film and it is further desirable because it does not necessitate the use of a special Technicolor camera Any camera can be used for the Monopack system Lantz thinks it will be used almost exclusively for the color pictures of the future

The Torpedo pictures were very interesting and had to show the various wakes of ships, and the course taken when the torpedo was fired. For these, rear-projection screens were devised, with the wakes of torpedoes and wakes of ships being worked out with lighting rather than drawings Also, instead of drawings of the ships, exact replicas, furnished by the government, were used Perfect down to the smallest detail these miniature ships ranged in size from four inches to one foot in length

To get the correct effect, it was first necessary to decide where the wake should be, then it was superimposed on the back of glass by a special mechanical devise It could be made to animate By the same process, the course of torpedos going through water could also be shown Blowing up of ships was very realistically reproduced with electrical flashes of light showing explosions.

One of the biggest problems was solved when they decided to shoot through transparency At first, shooting through glass was attempted, but too many difficulties arose Glass was hard to handle, couldn't be machined, picked up reflections, scratched easily and heat from the lamps cracked it After a few other unsuccessful experiments, Lucite was finally selected as being the most adaptable for their needs Desirable in every respect, not the least of its good qualities was its flexibility, an important item when machining to specific shape

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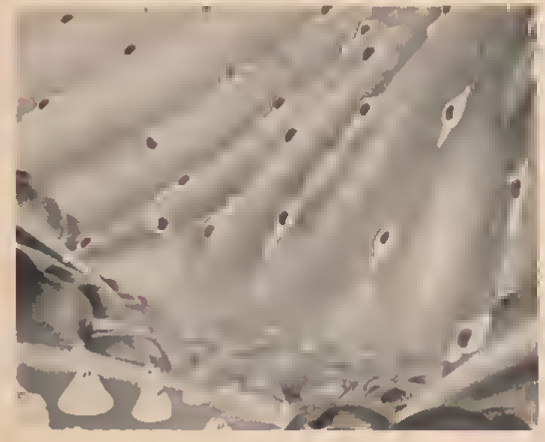

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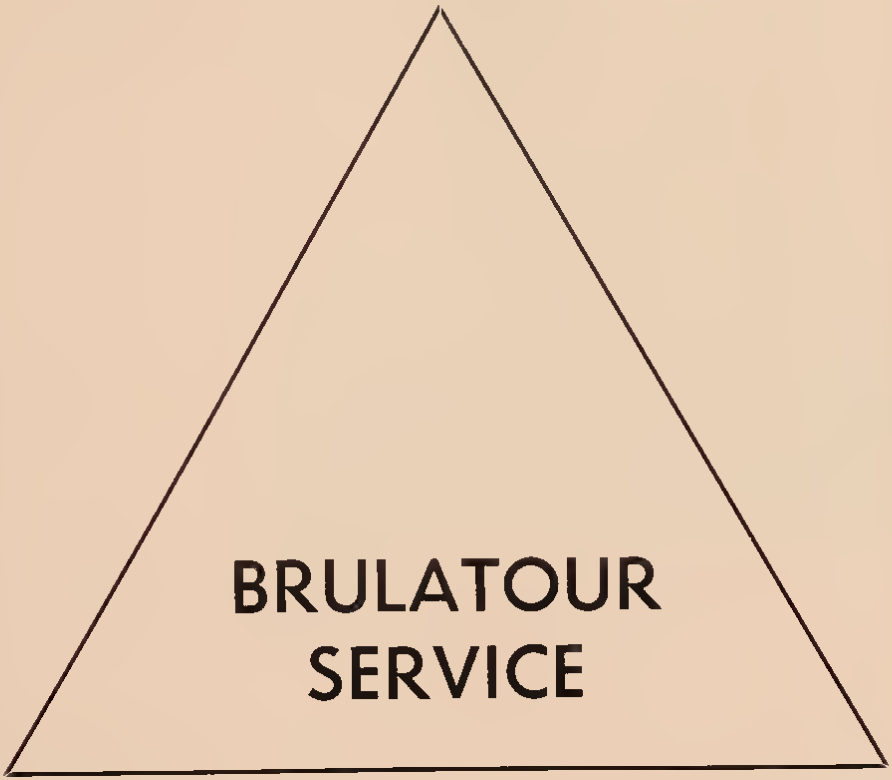

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The History and Origin of 16 Millimeter

By ALEXANDER F. VICTOR

President Victor Animatograph Corp

ALMOST every writer of motion picture history has, of late years, had his own and differing version of how 16 millimeter motion pictures came into existence It is my privilege on this, the twenty-fifth anniversary of the American Cinematographer, to give the facts of how this standard of film came about.

In 1923, I designed and placed on the market the world's first 16 millimeter projectors and cameras The Eastman Kodak Comapny made the world's first 16 millimeter film.

Of almost greater importance, however, is that in 1918 I proposed, at a meeting of the Society of Motion Picture Engineers held at Rochester, New York, the creation of a new and separate standard for motion pictures used OUTSIDE the theatre, or in which is usually called—the non-theatrical field

Up to that year many attempts had been made by manufacturers to introduce motion pictures of various film widths smaller than the theatre width standard of 35 millimeter The reason why they were made smaller than the theatre width was chiefly to save in raw material These film sizes varied, some being as small as 9 millimeter There was in all these attempts, one mistaken veiwpoint—each manufacturer believing that he could monopolize the film supply The films were, therefore, deliberately made non-interchangeable with the products of competing manufacturers.

In 1918, I arrived at two conclusions. The first—that as long as 35 millimeter film was offered to the non-theatrical user, there would never be an industry This, because no insurance company would write insurance on any building in which this film was used, due to its high inflammability unless fire-proof booths were installed. The second conclusion was that no individual manufacturer had the necessary finances to produce a sufficient supply of film if using an arbitrary and individual style of film.

My solution to these problems was exceedingly simple I proposed that a separate standard be adopted for amateurs, schools and industries. With this in mind I presented a paper at a meeting of the Society of Motion Picture Engineers in Rochester, in 1918, entitled—"THE PORTABLE PROJECTOR, ITS PRESENT STATUS AND NEEDS" in which I advocated the standardization of a non theatrical film and apparatus, so differing from the theatrical standard that interchangeability with theatrical 35 millimeter film was impossible, and that all such film be made from non-combustible material instead of nitrocellulose.

From the perspective of 1945, it does not seem possible that such a simple proposal, under which no manufacturer was compelled to manufacture either machine or film, could have raised such a storm of protest But as a matter of fact, it took many months of the hardest kind of persuasion and work to obtain the required number of votes to secure the acceptance of this proposal. The new film was 28 millimeter in width and became known as "the safety standard" to distinguish it from the so-called 'theatre standard" Considering the great success of the non-theatrical industry and its magnitude at this time, one wonders why so much opposition was offered and why so many acrimonious discussions had to take place

The safety standard had one weakness. Although of narrower width than the theatre standard, it was more expensive on account of the higher cost of the raw material. Therefore, aside from the absolute safety, it had nothing to offer and unscrupulous manufacturers continued to sell and advocate theatre standard projectors for use in places where no adequate protection was offered against film fires, of which there were many

During my struggles to introduce the safety standard, I was supported by two staunch friends, the Eastman Kodak Company and Willard B Cook of the Pathe-Scope Company of America. Had it not been for these two, I do not think the safety standard could have become adopted. As it turned out, the Eastman Kodak Company offered to manufacture the new type of film, spending a great deal of money installing the necessary equipment.

In 1923 the Eastman Kodak Company perfected the Reversal Process for motion picture film Although this process was not new, having been employed in color photography, its application to motion pictures was a great innovation

This process had two advantages It was finer in grain structure and, therefore, a film having a smaller area gave

(Continued on Page 384)

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25 Years of Progress

(Continued from Page 369)

tems had to be silenced In fact, all equipment had to be silenced—even to the shoes we walked in

Make up With the new Panchromatic film, new make-up had to be devised, and the so-called Panchromatic make-up was developed

Acting Personality, an attractive face and figure, and the power of pantomime were necessary requisites for silent films But for "talkies" more was needed a voice, a personality, an ease of naturalness of delivery now meant more than a pretty face Actors with legitimate stage training were much in demand, and many were the top silent stars who passed quietly from the scene

Writing An entirely new technique was required for talking pictures Dialogue assumed importance for the first time, with some of the earlier films being far too much "talkie."

Directors, producers, exhibitors — all felt the impact of sound Acoustics in theaters had to be taken into consideration, and so the wooden seats, whose slick surfaces acting as sounding boards, were replaced with sound-absorbing plush seats.

With the advent of sound, we had, for the first time, really good engineers and greatly improved technical organizing These men were recruited from the Telephone Company, radio and electrical companies and from Universities

Closely following sound, Carroll Dunning and Roy Pomeroy, in 1927-28, patented a process called the Color Transparency Process That was a method of putting people in against a die image background plate running in contact with panchromatic negative in the camera and using complementary colors for photographing and printing against The Pomeroy and Dunning Process was used for many years

The introduction of color into motion pictures offered another great step forward However, I do not honestly believe that color will ever be completely successful commercially or completely practical until we get away from centralized laboratory processing and can handle color in our own laboratories as we now do black and white It is almost a must that it eventually be done in our individual studio laboratories When that time arrives, color will become completely commercial If each studio were doing its own processing, the desire to improve one studio product over that of another would undoubtedly lead to greater development in color.

Another important development in the Motion Picture Industry has been the transparency process This process developed spontaneously as technicians throughout the industry discovered methods and utilized equipment and materials which made it practical These key developments were made possible by the introduction of sound, which brought about the means of electrically synchronizing the composite or foreground camera with the background projector, and the introduction of the first super-sensitive panchromatic emulsions, which for the first time afforded the high film sensitivity necessary for rephotographing the projected background-image With these elements available, it was inevitable that Cinematographers in practically every major studio should put them together to form, in actuality, a system which for years many of us had pondered in theory

Our goal in this field is always to achieve the well-nigh impossible "perfection shots" As a matter of fact, when we are able to fool other Special Photographic Effects men, and have them think our shots are the real thing, then we will have achieved our purpose To paraphrase Abraham Lincoln we would like to "fool all of the people all of the time"

As to the possibilities of the future, I predict that the utilization of the sciences in motion picture photography and photographic methods have unlimited possibilities We have barely scratched the surface. New ways of application of electronics, optics, scientific discoveries will be devised, refined, developed I visualize the time in the not too far distant future when we will be able to set up a television camera at Times Square, put our actors through their paces here on the set in Hollywood, superimposing the Hollywood scene over the New York scene, and rephotographing them in a good believable composite This may sound far-fetched, but when you consider the application of science to produce the Atomic Bomb, Radar and other recent scientific and war developments, this is completely within the realm of possibility—possibly even in stereoscopic color—if you please!

It is unfortunate that it takes a war to bring forth mighty developments and inventions, but such is the indisputable truth. War is a creature of waste waste of life, of material, of money and effort But it would be impractical, impossible to invest so much during peacetime, it is simply not economic World

(Continued on Page 405)

The Technique of the Documentary Films

(Continued from Page 37)

Action cannot always be controlled At times his only alternative will be to set his camera up and shoot, hoping that the action he seeks will develop. But most of the time he will be able to direct people in re-enactment of an actual situation This is perfectly permissible, in fact, it is the only way to get certain sequences The director should not hesitate to apply direction where needed

However, the director must be careful not to overdirect, or he will get stilted performances from the non-actors with whom he is working He should put these people at ease by gaining their confidence before hand Next, he must try to provide as many elements of the real situation as he can

Then he must answer in his own mind the question "What is the meaning of the action in this scene?", remembering that the scene bears a direct relationship to the ones immediately preceeding and following it Keeping the action as simple and real as possible, he then rehearses the scene with his people until it is correct Diverting the subject's attention away from himself and toward the subject matter, is of prime importance if realism is to be achieved

By keeping himself inconspicuous, by holding his action to a simple pattern, and by avoiding obvious "arty" touches, the director can produce a true documentary feeling on the screen

The Camera

The camera is the "eye" through which the picture is recorded, and photography is no small factor in the quality of the final film. There used to be a theory that poor photography in a documentary made it more "real"—but this idea has long since been revised. The "March of Time," regarded as tops in the documentary field, maintains a high standard of photography and profits greatly by it

Now, at last, film-makers realize that careful composition helps to tell the story more forcefully The camera is such a flexible instrument that it can adopt unlimited point of view; but here, too, the documentarian should be careful not to let the camera run away with him, for any technique that calls attention to itself is a bad technique because it is bound to detract from the subject matter of the scene.

An angle suited to the subject will have dramatic punch, and the rule follows that any camera technique should be motivated by the demands for the situation. The novice, for instance, is inclined to 'spray" the landscape with his camera, injecting unnecessary camera movement A "pan" or "tilt" should mostly be used to follow action, rarely on a static subject, and never as a substitute for action within the scene.

In shooting uncontrolled action it is sometimes necessary to hide the camera from view and shoot "candid" in order to keep crowds from looking right into the lens Similarly, two or more cameras trained on the same scene may be necessary to record a variety of coverage on a sequence that cannot be re-staged

The cameraman should not overdo the use of reflectors in outdoor scenes, as the rather harsh quality of natural sunlight (except, perhaps, in large close-ups) has a realistic feeling to it that is desirable in documentary There is a growing tendency toward the use of filters in this work, and they tend to give a fine rotogravure quality, but be consistent If you start out with filters, follow through with them, otherwise the scenes will not match when intercut together

(Continued on Page 402)

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THROUGH the EDITOR'S FINDER

TWENTY FIVE years ago this month the first issue of the AMERICAN CINEMATOGRAPHER made its appearance. Members of the American Society of Cinematographers were proud of that first issue, but they never dreamed that it would some day develop into a journal that is recognized as the leader in its field throughout the world, that it would some day number among its readers thousands of home movie makers who from its pages glean information that helps them make better home movies

This writer is proud of two things in connection with the magazine First that it was he who introduced an amateur department in the magazine back in 1929. Second that he has guided the magazine as its editor for a total of five years and six months of its existence: three years and three months at one period, and two years and three months since the death of Editor William Stull in July, 1943. During that time we have been happy to see the increase in enthusiastic readers in all parts of the world—and to have been able to serve them

When I stepped in to help out on the death of my friend Bill, I had no intention of remaining at the editorial helm, just planned to stay on until another editor could be found. Well—I kept staying on all this time Now the increase of my main business, Public Relations has become so great I no longer have the time in which to edit this publication So, with this, the Silver Anniversary issue, I am resigning as editor, and am turning the reins over to my good friend Walter Greene, who assumes the editorship as of November first. I want to thank the many readers for their wonderful letters of commendation that I have received through the last two years. I really hate to part company with you readers, but I must. And I am sure Mr Greene will continue to give you the same high standard magazine you have been receiving each month.

Goodbye, folks God bless you all H H

JUST because the war is ended does not mean that we can all sit back relax, and forget about the financial problems of our country. No, sir! We have millions of men still in the service We have a big job on our hands to get them back home, and to properly police Japan and Germany. Our government is going to need a lot of dollars to finish up the great job it undertook after the sneak attack on Pearl Harbor

Those dollars have got to come from you and you and you and me . . from the citizens of these United States of America The government is not asking you to GIVE your dollars It is asking you to LEND them at interest It is asking you to invest in the greatest country in the world

So, dig deep, then deeper, and buy bonds and help put this VICTORY LOAN, your last bond drive, across with a bang. We oversubscribed each bond drive for war Now, let us oversubscribe this one for peace. Thousands of our men gave their lives for our country The least we can do is LEND our money.

WAR pictures are practically out as far as the schedules of the major film companies in Hollywood are concerned, with only six films dealing with war planned for production during the coming year

Box office reaction and polls have indicated that the American public has had just about all the war it wants With several million service men slated to return to civilian life within the next year and a half, film producers figure they won't want to see phoney war on the screen after they have participated in real fighting Also, it is felt that the ex-servicemen have been pretty much fed up on war, and want to forget it Then, there are vast numbers of mothers and fathers whose sons have died or been horribly wounded, and film makers figure that they will not care to see pictures that will remind them of their sorrow

THAT motion pictures will play a prominent role in re-education of the people of conquered Germany and Japan is more than evident

The United States government already is sending special propaganda films into Germany, and will send similar films to Japan in an effort to show the American way, the democratic way, of life Now, it is disclosed by Joseph A. Thomas, president of Telefilm Studios of Hollywood, that religious organizations are preparing to follow the Yank troops into the South Seas, Europe and Asia with special educational short films.

Two of these groups are now completing contracts with Telefilm to make their films which they hope will play a large part in the rehabilitation of people in the war-torn countries University language experts will be retained to do the narrating in Japanese and German on Kodachrome sound films

Apparently the religious groups now realize that motion pictures have educational advantages over the printed and spoken word, especially in countries where illiteracy is rife, also that films speak an international language. Thus the groups plan to use film in all their missionary work

---

IT IS good news that Eric Johnston, aggressive head of the U S Chamber of Commerce, has taken the place of Will Hays as president of the Motion Picture Producers and Distributors of America

It is particularly fortunate that he assumed the job in the midst of the long-drawn-out strike of some film workers, for Johnston is noted for his honesty and sincerity, and for his fair attitude toward labor. Whether or not he will have the unfortunate strike settled by the time this issue is off the press we cannot tell But we do predict that when it is settled Mr Johnston will find a happy way to maintain peace between labor and management in the film industry for many years to come Good luck to you, Mr Johnston!

Keeping Track of A.S.C. Members in the Studios

As this issue of the Cinematographer goes to press members of the American Society of Cinematographers are filming the following pictures:

Columbia

Rudy Mate, "Gilda;" Charles Lawton, "Perilous Holiday," George Meehan, "Terror Trail"

Metro-Goldwyn-Mayer

Harry Stradling, "Holiday in Mexico," George Folsey, "The Green Years," Hal Rosson, "No Leave, No Love," Karl Freund, "Time for Two," John Boyle, "Star from Heaven," Les White, "Army Brat," Joseph Ruttenberg, "Till the Clouds Roll By," Len Smith, "The Fiesta"

Monogram

Harry Neumann, "The Face of Marble," William Sickner, "The Shadow," Karl Struss, "Glamour Girl"

Paramount

John Seitz, "I Take This Woman," Lionel Lindon, "Monsieur Beaucaire;" Victor Milner, "Love Lies Bleeding," Daniel Fapp, "Third Avenue"

P. R. C.

Franz Planer, "Once and for All"

RKO

Nick Musuraca, "The Silence of Helen McCord," George Barnes, "From This Day Forward," Robert DeGrasse, "Badman's Territory," Russell Metty, "The Stranger;" Lucien Andriot, "Lady Luck," Harry Wild, "The Dream of Home," Milton Krasna, "Thanks, God, I'll Take It from Here," Ted Tetzlaff, "Notorious"

Republic

Tony Gaudio, "Concerto"

20th Century-Fox

Norbert Brodine, "Sentimental Journey," Ernest Palmer, "Centenial Summer," Glen MacWilliams, "Shock"

United Artists

Bob Pittack, "The Sin of Harold Diddlebock," James Van Trees, "A Night in Casablanca"

Universal

Edward Cronjager, "Canyon Passage," Hal Mohr, "Because of Him," Elwood Bredell, "Tangier," George Robinson, "House of Dracula"

Warners

Ernie Haller, "The Verdict"

How to foil a fidgety actress!

MAKING indoor movies of temperamental young children isn't easy

Use too bright lights, and your subject recoils. Squints. Protests! Focus on your star in one position, and he (or she) is certain to move to another

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TRIPLE S PAN FILM

Formation and Progress of Amateur Movie Clubs

By CLAUDE W. CADARETTE

At the outbreak of World War II the War Department, realizing that there were not enough professional cameramen, sent an urgent appeal to the amateur photographers of America to volunteer for assignments in all branches of the government's photographic departments. Thousands of men responded and served in all capacities of the Signal Corps and Air Force Photographic units. Their services were doubly valuable in view of the fact that they required a minimum of training and could be readily assigned to important tasks at a time when speed was paramount in the preparedness for war.

The War Department was aware that these amateurs were qualified for their assignments in still and motion picture work because the photographic amateur is, as a rule, more familiar with all phases of his hobby than any other type of hobbyist. The Army, Navy and Air Forces also realized that photographers cannot be trained in a few months or a year. They needed these men and turned to the amateur clubs of America for their source of supply.

The results of the amateurs' work in the war effort is amply recorded in the files of the War Department. Many have died but their work always paved the way for invasion fleets and battleground maneuvers.

Let us review the history and background of the clubs where these men were members and officers.

Photographic clubs are not new. In the days of Daguerre it was not uncommon for small groups of photographers to meet and discuss their work with each other.

One member's advancement or achievement was not kept as a secret but was shared with the others to help improve their work. This is still the practice in clubs today. It is this spirit of good fellowship and helpfulness that has proved so successful to clubs and to the photographic industry as a whole.

Although motion pictures for the amateur photographer were introduced in 1923 with the advent of the 16 millimeter camera and equipment, the cost of the equipment limited the sales to only the wealthier families in each city. Little was known about technique and the use of accessories, so filming was confined to family capers and portraits.

A few years later, lower production costs and improvements in the equipment brought the camera within the scope of the average salaried man and created an incentive in thousands of people to own a camera.

Soon, small groups would meet at their favorite dealer and discuss their photographic results. These meetings were the nucleus of the formation of clubs.

In 1925, the first clubs were organized but their activities were confined to purely social gatherings and viewing films. Interest in filming techniques and scenario type pictures did not become very evident until 1933. By that time, superior cameras, accessories and films had created a desire in the amateur clubs to do all that was possible to emulate the results of the professional cameramen. Scenario type film and good editing provided an incentive for the members to outdo their fellow members in their club and other clubs throughout the States. Competitive meetings were inaugurated and annual contests became the highlight of all club activities.

About this time, the eight millimeter camera was introduced to the market at a much lower operating cost than sixteen millimeter equipment.

This brought movie making into thousands of homes and into hands of young people with a tremendous urge to make their own scenarios. Eight millimeter clubs were formed by the hundreds during the first two years after the introduction of the equipment and the photographic hobby took a sudden leap to the foreground over all other types of hobbies. Competition rose to new heights between sixteen millimeter and eight millimeter films and in my opinion, based on the results of the American Cinematographer International Contests, eight millimeter films won the distinction of winning more places in these contests than the sixteen millimeter entries.

Inter-club, inter-state and inter-national contests were inaugurated and interest in movies thrived.

Inter-club meetings are constantly held and most club meetings have turned from the purely social type to the educational. Club members demanded enlightening talks on photographic problems from professional men and discussions among members to aid them in producing better motion pictures. Amateurs made exhaustive tests and trials to learn and achieve effects they had seen on the professional screen. This interest among members made clubs prosper and flourish.

Film exchanging between clubs became popular and guest speakers were provided for inter-club meetings. Contests were held monthly and annually with keen competitive spirit but always guided by the feeling of good fellowship and pure Americanism.

In this atmosphere of club functions, the amateurs learned, experimented, tried and retried, gained effects and in general overcame most of the problems which confronted them in mastering their photographic skill. This was the background and training which the War Department needed and acquired after they had made their appeal to the clubs.

During the war, by careful planning and pooling of transportation facilities, the clubs survived gas rationing problems and kept their activities alive. Club banquets on the West Coast and in critical war areas were held during daylight hours to eliminate night dim-out driving and air raid alerts. Shortages of film threatened the existence of many clubs, but the members helped each other in many respects and through cooperation, every member was able to obtain film necessary to meet urgent demands. All clubs which survived the war years are now definitely well enough established to overcome any emergencies or catastrophies which may now occur. They prospered and flourished during the depression years and survived the world's greatest armed conflict.

The old clubs, namely Hartford Camera Club, New York Camera Club, Chicago Cinema Club, Los Angeles Cinema Club, Los Angeles Eight Millimeter Club, Long Beach Camera Club and many others have become institutions which can withstand any difficulties and live indefinitely. Hundreds of other smaller clubs are rapidly coming to the foreground and providing strong competition for these older groups.

The spirit of helpfulness among these groups has contributed to their stability and progress. Within these circles, members have made hosts of friends and the membership rolls will reveal that men in all types of industry, from the Gas Station Operators to the Aircraft Executives meet on common ground to discuss their filming results.

Survey Shows Increase In 16mm Outlets

A total of 70,000 outlets for 16 mm films, which includes schools, churches, clubs, and business firms, are now available in the United States, according to figures released after a survey made by Telefilm Studios of Hollywood, it was announced by Joseph A. Thomas, President.

Thomas also revealed that a circuit of 350 theatres for 16 mm pictures, to be erected in small towns throughout the country, is planned by one exhibitors' organization.

The Telefilm chief said that theatres for 16 mm films are at present being erected in European countries to replace many of those destroyed during the war. Advantages of the 16 mm. houses are lower cost of building during the shortage of materials, easier installation of equipment, and less fire hazard.

Thomas said that 16 mm equipment definitely will be more adaptable for television, especially because of shipping advantages, the narrow measure film being non-combustible.

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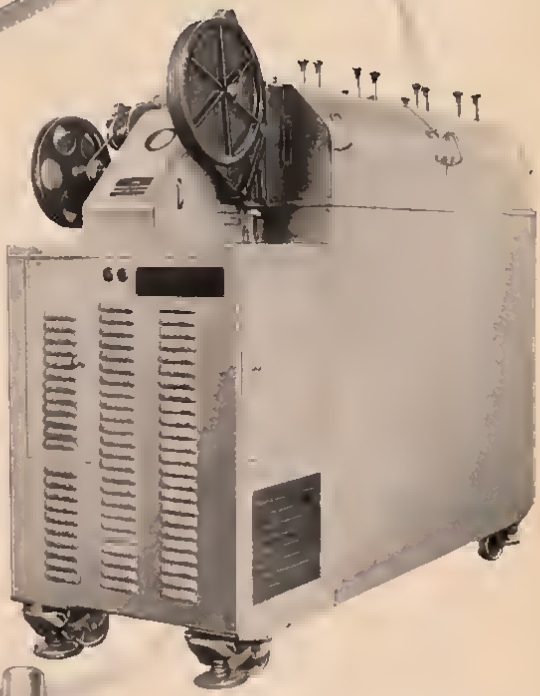

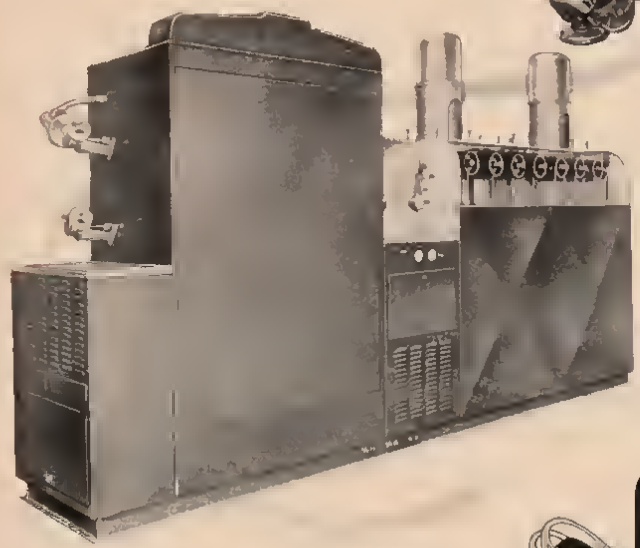

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"TOMORROW'S PROCESSING METHODS TODAY!"

Peacetime Engineering Outlook

By D. E. HYNDMAN

President S M P E

MANY articles have been published extolling the miracles of scientific and engineering progress made because of research and development done to produce new and effective materials for World War II Some have stressed the panacea that will exist now that peacetime has arrived pointing out special new gadgets made of plastic, light-weight metals, special new-type materials, etc; even to predicting the early availability of wrist watch radios, book-size television sets, gadgets that do all housework, and even atomic powered automobiles Perhaps some of these Buck Roger developments will materialize, but let us not be led to expect too much—to expect more than the scientist, engineer, and producer are capable of giving Let us remember that reliability and quality of performance require careful study, often considerable time, and ample proving tests

This type of careful study and investigation of problems or projects is fully representative of the high engineering standards practiced in the past and planned for the future by the Society of Motion Picture Engineers

The Society is an engineering organization of a group of individuals associated in general partnership to conduct a business paying no salaries to officers or members, but operating on a non-monetary principle to recommend engineering procedures, to guide to some extent research and development, to encourage improvement, and to lead standardization in the Motion Picture Industry From the initial organization of the Society in 1916 it has led the Motion Picture Industry to accept technical improvements that have been major contributions for continually increasing the efficiency of operation in production, distribution, and exhibition, and patronage at the box office

In cooperation with those interested, the Society plans:

(1) Group engineering at an accelerated rate on problems and projects directly related to production, distribution, exhibition, film, equipment, accessories, etc.

(2) Further detailed work on the interrelations of the television art and the entertainment field of motion pictures, involving such specific projects as studies of frequency allocation and band width requirements in relation to screen definition, private addressee systems, study of problems in installing and operating television equipment in theaters, follow up on hearings before the Federal Communications Commission, etc.

(3) More efficient work in standardizing procedures, methods, data, specifications, equipment, and the like, which brings economy to production, distribution, and exhibition

(4) Careful supervision of all engineering and technical projects on Motion Pictures with the American Standards Association and any International Standardizing Groups in order to maintain the Motion Picture Industry in a position to steer equipment design throughout the world This would tend to assure that American Motion Pictures could be distributed or exhibited anywhere Much of this cooperative work has been done in the past, but as a result of the war it is imperative that this international cooperative engineering be followed to the fullest extent

(5) Correlating, assembling, editing, and original preparation of material for needed engineering reference books and/or reports on:

(a) Cinematography,

(b) Sound Recording and Reproduction for Motion Pictures,

(c) Motion Picture Laboratory Practice,

(d) Film Exchange Practice

(e) Motion Picture Process Photography,

(f) Motion Picture Projection

(g) Motion Picture Theater Engineering,

(h) Preservation of Motion Picture Film for Valuable Record Purposes,

(i) Theater Television Installation and Operation

These books or reports are urgently needed not only in the Industry but also as text books for the teaching of courses on Motion Pictures in colleges and universities Such courses are now proposed in answer to numerous requests from members of the Armed Forces as well as from civilians who, in past years, have often asked the Society to recommend institutions giving courses in Motion Picture Production, Distribution, and Exhibition

Mutual understanding and close cooperation of those who appreciate these problems in the related fields of production, distribution, and exhibition are necessary to bring about engineering advances which might otherwise lay dormant for many years Let us work together to make American Motion Pictures continue leading the World

The History and Origin of 16 Millimeter

(Continued from Page 376)

the same result as one of larger area made under the old process That meant a saving in cost of material. The second advantage was that if only one picture was wanted, it obviated the need of a negative, again a great saving in cost

When the Eastman Company brought this process to my attention, I became very much interested Here, it seemed, was the true solution of the problem of a safe standardized film for non-theatrical use, and especially since it lent itself to amateur photography where the user himself made his own "movies" independent of other sources of supply I reasoned that if enough people bought cameras and projectors for the purpose of making their own pictures, it would follow that field and would be opened for commercial films made for the projectors, or copied from existing theatrical material In fact, I saw that here was the perfect solution to my dream of safe movies for the home, the school and industry

It was proposed, from some quarters, that the new film be made one-half the width of the theatre film, or 17½ millimeters. The objection to this width was that inasmuch as the type of raw stock used for 35 millimeter was cheaper it would make possible a "black market" in which unscrupulous persons might split regular thirty-five millimeter film and nullify the entire effort for a safe product

It was decided that the new film should be made 16 millimeters in width, which was a millimeter and a half less than a split thirty-five, and with film channels made to a 16 millimeter dimension, it would prevent the use of split theatre film.

With these preliminaries out of the way and the assurance of the Eastman Company that it would make the new film and would process this film for amateurs, I immediately began the work of designing a 16 millimeter camera and projector

By August, 1923, we were in production The world's first printed announcement of the Victor Cine Camera and Projector and the new Eastman film was made in the form of full page advertisements in the two leading Davenport Iowa, newspapers on August 12, 1923 That day I definitely relinquished all interest in the 28 millimeter standard and have since that time advocated and devoted my company's energies to the 16 millimeter width.

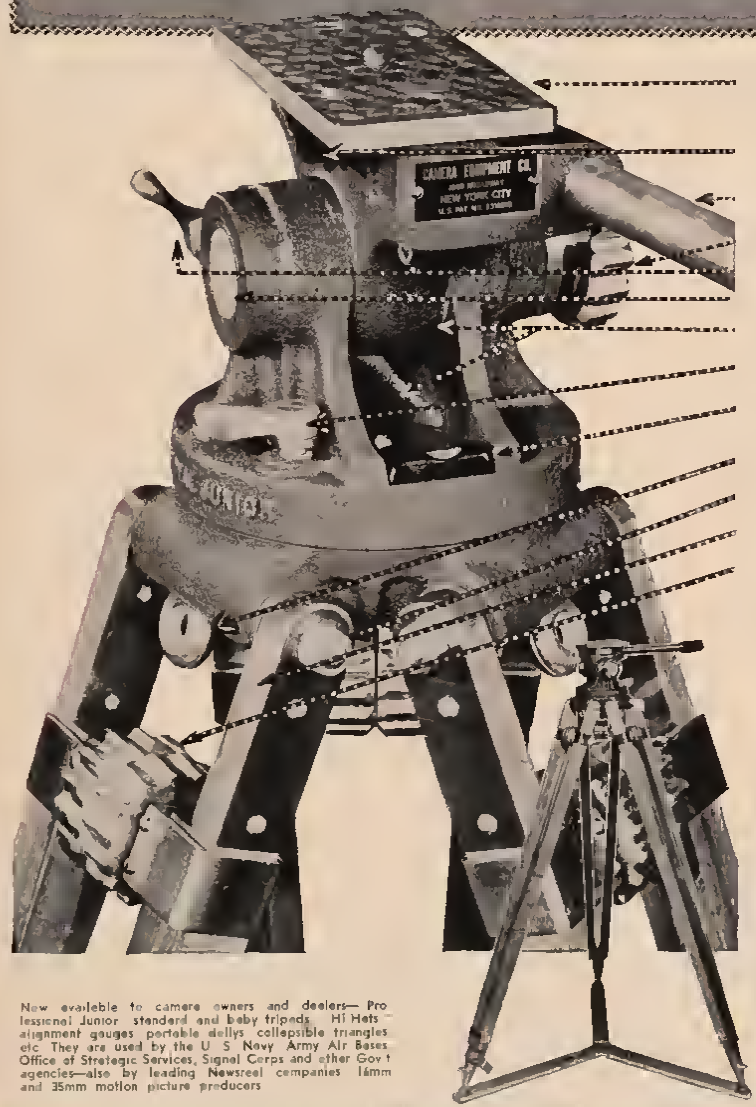
Although I had the good fortune to be the first to design and manufacture 16 millimeter cameras and projectors, it does not mean that I am entirely responsible for its success and growth To Eastman Kodak Company belongs a

(Continued on Page 396)

"PROFESSIONAL JUNIOR"*

FRICTION TYPE

Removable Head Tripods



Tripod handles all 16mm cameras including Eyemo Cine Special Bolex, etc., even when motor driven and with large film magazines

Knurled knob easily accessible fastens any make camera on top-plate.

Rubber gripped guide handle is removable fastens under tripod when carried

Large knurled knob adjusts tilt action tension

Wing lock for positive setting of tilt head if fixed angle is desired

Very large trunnion insures super-smooth tilt action with minimum wear

Tilt head design permits extremely wide arc of high and low tilt action

Wing lock for adjusting pan movement tension. Also acts as positive lock in any position

"L" level aids in setting tripod to true horizontal and vertical position

Tie down rings permit using tripod on moving platforms such as dollys auto roofs etc

Non loosening nuts hold legs on base securely

Maple long grained hand rubbed, splinter proof weather and warp-proofed is used for tripod legs

Quick release fluted knobs set between each leg afford positive locking in centralling tripod height adjustments

Acclaimed the finest for every picture taking use Professional Junior tripods are compact versatile rugged. Super smooth 360° pan and 80° tilt action positive simple leg height adjustments compact and light (weighing 14 lbs.) allowing 72 high and 42 low usability—no finer tripod is made. The inset shows the full tripod mounted on our all metal Collapsible Triangle which is used to prevent tripod from slipping when used on hard or slippery surfaces

New available to camera owners and dealers— Professional Junior standard and baby tripods Hi Hats alignment gauges portable dollys collapsible triangles etc. They are used by the U. S. Navy Army Air Bases Office of Strategic Services, Signal Corps and other Gov't agencies—also by leading Newsreel companies 16mm and 35mm motion picture producers

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AMONG THE MOVIE CLUBS

Westood Club

Three excellent films in Kodachrome and a talk on flood lighting featured the October meeting of the Westwood Movie Club Films screened were

"A Tuolumne Vacation," Roy Olson

"The Centipede or My First 50 Feet," by L F Forden

"The Farmer's Daughter," by Mildred J Caldwell

Eric Unmack in his talk on lighting spoke on the subject of "Make Indoor Movies this Winter"

The November meeting will be devoted entirely to the showing of contest winning pictures Winners will be selected at a preview of all entries before three judges Jesse Richardson, Ed Franke and Dr J A Thatcher None of the judges will be permitted to enter a film in the contest November fifteenth has been set as closing date for entry of films in the contest

Annual election of club officers has been set for December, and President George Loehrsen has announced the following nominating committee Don Campbell, Dr Gobar and Jesse Richardson, all past presidents

Tri-City Club

Highlight of the October meeting of the Tri-City Cinema Club of Davenport, Iowa, and Moline and Rock Island, Ill, was a talk on composition by Elizabeth Moeller, Director of the Davenport Municipal Art Gallery Her talk was illustrated with Kodachrome slides

Two films were screened They were "Brookfield Zoo," by Joseph O Booth, and "Ten Thousand Miles," a western scenic furnished by the Eastman Kodak Company

Officers of the Tri-City Club are

Margaret West, President

Tom Griberg, First Vice-President

Roger Spitznas, Second Vice-President

Carl Asmussen, Secretary-Treasurer

Miss Georgie First will handle national press releases

Brooklyn Amateur Cine Club

A Ten Best Winner, "Baie St Paul", by Frank Gunnell, was included in the program at the October meeting of the Brooklyn Amateur Club

Other 16mm Kodachromes shown were "Air Currents" by Francis Sinclaire "Surprise Party for the Doctor" by Samuel Luskin, and "World's Fair" by John Larson

St. Louis Club

Two outstanding films featured the October meeting of the St Louis Amateur Motion Picture Club They were

"St Louis Zoo," in Kodachrome, by Dr and Mrs Jordan

"It's West Again," by Werner Henze

Los Angeles 8mm Club

The Los Angeles Eight Millimeter Club met October 10 for its regular monthly meeting, and a preview showing of "The Stillwell Road" filmed in China

Two other films were previewed at the meeting which were photographed by two members who have just returned from overseas They were "Saipan and Guam" by Louis B Reed, and "China and India" by James B Ridge It has been announced that the annual banquet is to be held December 15th

Cinema Club of San Francisco

The October meeting of the Cinema Club of San Francisco was held jointly with the Westwood Movie Club at the Women's City Club

An unusually fine selection of films were enjoyed by both clubs The evening's showing was as follows

"Colorful San Francisco", an 8mm Kodachrome by George Loehrsen

"The Home Front", a depiction of home news as related by a mother to her son in the service

"Our Garden", an unusually beautiful 8mm Kodachrome by Joe Pissott.

"Baie St. Paul", a ten-best award 16mm Kodachrome by Frank Gunnell

"Pictorial Jewels", Kodachrome slides by Leon Gagne

La Casa Movie Club of Alhambra

Through the courtesy of the Walt Disney Studios, the Alhambra Movie Club viewed a series of 16mm late sound and color pictures at its October meeting Also shown, were 8mm scenes of the Arcadia train disaster, photographed by Paul C Knepp

Other films viewed were an 8mm Kodachrome by Earl Martin titled "Cuba", "An Eastern Trip" by John Cook, "Our Anniversaries" by R A Battles, and a 35mm film by C L Wachholz, "Western Scenes"

Los Angeles Cinema Club

An instructive talk by J H Maynard of the Color Film Processing Department of the Eastman Kodak Company was a feature of the October meeting of the Los Angeles Cinema Club

Films shown at the meeting were as follows

"Odd Shots of Mexico" by Guy Nelli

"Bird Life" by Andrew G Orear

"Yosemite's Water Falls" by L S Peterman.

"Wealth of the Andes", "Patzcuaro", "Introduction to Haiti", and "Hawaii" by Harry F Burrell

Metropolitan Motion Picture Club

The Metropolitan Motion Picture Club of New York City met October 18 at the Hotel Pennsylvania to witness the showing of four 8mm films In the group was "An Anaesthetic Fantasy" by Ernest Kremer, a masterpiece of trick photography inspired by a severe toothache

William Brandegee displayed his film "Titling Technique," and gave a fifteen minute talk on methods for producing unusual titling effects

Other films seen during the evening were the following:

"Random Recollections"—George Valentine

"It's V-E Day"—Terry Manos

"Le Petit Cinema"—George Valentine

Utah Cine Arts Club

Three interesting Kodachromes were shown at the October meeting of the Utah Cine Arts Club Films shown were two 16mm Kodachromes — "Northwest Travels" by Cliff Zimmerman, and "Intimate Mexican Travels" by J Vernon Sharp The third presentation on the evening's program was the 8mm Kodachrome photographed by John Allein titled "Youthful Fantasy"

New York Eight

Members of the New York Eight Millimeter Club viewed two interesting Kodachromes at their October meeting Films shown were "Lassie Stays Home" by R J Berger, Cheektowaga, New York, and "Garden Truck" photographed by A D Furnans of Kansas City, Mo.

Thanksgiving Movies

Thanksgiving Day is not far away, so why not get busy now in preparing a well thought out scenario to record that event at your place on film.

Most home movie makers think only of filming the family sitting down to dinner, and perhaps the activities after the meal. But why not think about the preparation of the feast. Give mother a break this year. An interesting film can be made showing the creation of that dinner, starting with mother selecting the turkey, purchasing the various vegetables, stuffing the turkey, basting it as it turns to a golden brown, making the pumpkin pies, etc Top that off with scenes showing how quickly all of mother's work disappears down her family's throats and you will have a film record worth while in years to come —H H

Ciné-Kodak Film is on the way

Here's news about Kodak Film, too

8mm. and 16mm. magazine and roll... full-color Kodachrome and black-and-white

AT YOUR CINÉ-KODAK DEALER'S—SOON

SOME Ciné-Kodak Film will come in the familiar prewar Ciné-Kodak Film cartons... some, in the new-style cartons you see here ... but all, dated on the outside of the cartons for your protection, is, as ever, uniformly dependable! Your dealer may not have all you want the first time you see him. Soon, he will have plenty.

More still camera film

Although quantities of "still" film, both black-and-white and color, continue to be supplied to the armed forces both overseas and in the U. S. A. for military and for personal use, more and more is being delivered to your Kodak dealer each month. Keep in touch with him.

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Special Effects For The Amateur

By F. C. MOULTRIE

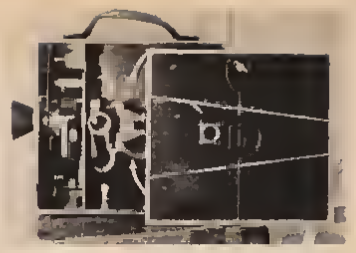
AMBITIOUS amateur cinematographers often find themselves at a disadvantage in obtaining certain effects as a consequence of the limited facilities provided on the majority of sub-standard movie cameras, to say nothing of restricted "exterior" means.

Few, if any, use optical or contact printing, back-projection, or other devices which will secure "special effects", and the amateur feels that he is tied down to straight photography of the real life scene, or he must leave it alone. Yet some of the effects and tricks referred to constitute the "punctuation marks" of a film and their absence is somewhat analagous to the situation we might face if presented with a book consisting of words only, with no asterisks, query or exclamation marks, commas or periods!

Apart from the call of necessity that we sometimes produce a made-to-order image when the actuality is difficult (if not impossible) to obtain, it is always desirable to lend polish to any film, whether it be a family record, a travelog, an industrial or a photoplay.

In preparing a script and planning a film, it is almost invariably found that the story would be much more agreeably told if this, that or the other detail could be incorporated. Professional motion picture studios utilize the services of Special Effects Departments, whose duty it is to devise ways and means of securing made-to-order photographic images more inexpensively than the shooting of the real thing would be or else to contrive a system of photographing images which would, factually, be impossible. Any amateur would find it very profitable to establish for himself a "special effects" department, even if it merely took the form of individual time spent upon efforts to solve current cinematic problems.

When an artist commences a painting, he has his colors and his blank canvas, plus a mental picture of that which he wishes to convey to the ultimate viewer. Substituting the camera and the raw film for the colors and canvas, that is exactly what one should have when constructing a motion picture, remembering that the manner in which the succession of images is registered on the film is immaterial, so long as one's aim is achieved. It was early observed that scenes arranged in sequence in motion pictures, become *related* in the viewer's mind. If

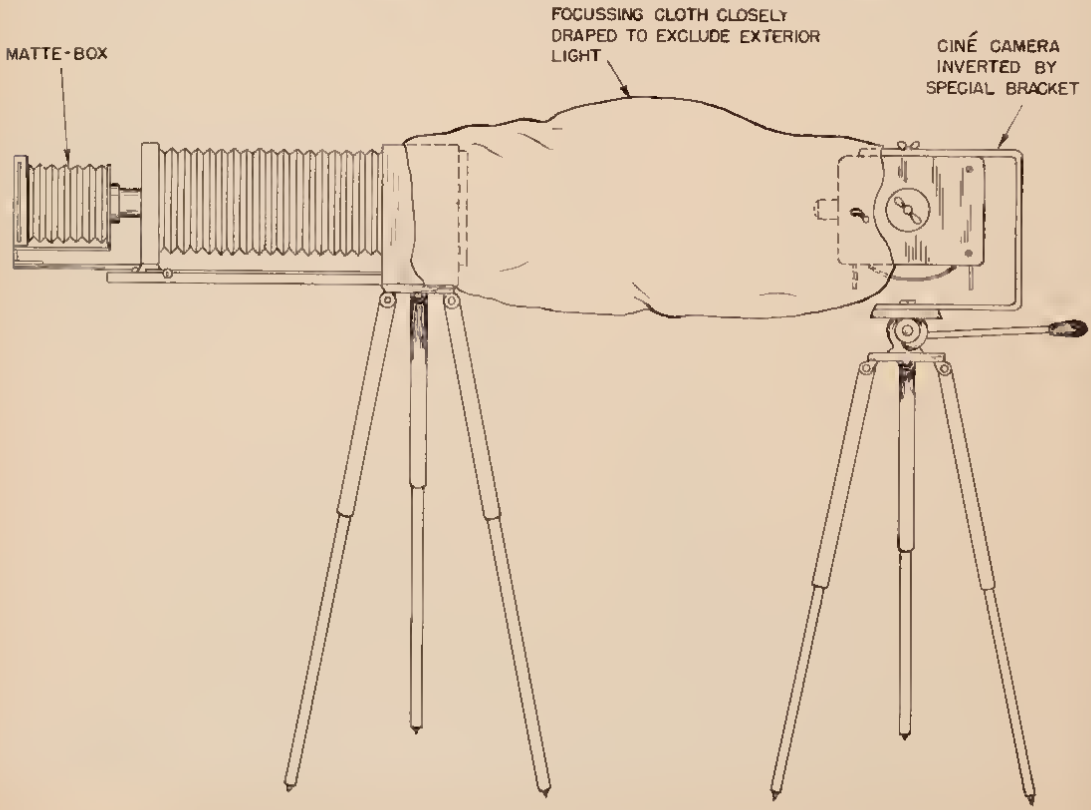


An old Cine Kodak Model A, fitted with direct focussing prism.

one were presented with a scene showing a bill-fold lying on the ground, followed by a shot of a person stooping as though to pick up something, one would conclude that it is the bill-fold that is being taken up, even though the scenes may have been in fact many miles apart.

No attempt will be made in this article to cover all the tricks that an amateur might use to accomplish a desired outcome, for individual ingenuity must be brought to bear on the problems of the moment. However, it is hoped that the remarks and ideas here given will provide a foundation for constructive conceptions, and offer interesting fields of

(Continued on Page 398)



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VICTOR wants to come home, too...

VICTOR has served long and well; VICTOR wants to come home to again serve Schools, Churches, Industries and the home user.

Thousands of letters ask, "How soon? When can we have the Animatophone?" As you know, we've been working

for Uncle Sam; his demands for VICTOR have been of gigantic proportion . . . for both military and industrial training. Meanwhile the VICTOR dealer has patriotically waited. Today it's natural to ask: "When?"

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MAKERS OF 16MM EQUIPMENT SINCE 1923

Say It With Titles

By JAMES R. OSWALD

OF THE vast majority of movie makers, only a comparatively few are consistent users of titles in their films. The others are either unaware or negligent of the importance of a few explanatory titles towards rounding out a silent movie. Perhaps this *not knowing* or *not caring* attitude can be attributed to the fact that Mr. Average Movie Maker is so intrigued by those shots of junior playing with his electric train, or sis admiring her new party dress, that he sees no faults whatsoever in his cine material.

Such a perspective is easily understood, for most filmers *are* inclined to view their pictures from a purely personal standpoint, in which case such films are naturally "tops." But let Mr. Movie Maker call in some of his friends . . . or better yet, total strangers, to analyze his pictures from a strictly neutral viewpoint. Then, and then only will he get the frank, unbiased opinion of the outsider! And such "critics" should not be considered cold and hard-hearted when they fail to have the same reaction to those tender scenes as those more closely associated with their making.

Not knowing anyone taking part these "judges," by their constructive criticism, are well qualified to rate a film on its merits only, and are best able to judge real "human interest." By separating true "human interest" from the sometimes closely allied "sentimental shots" they are doing the filmer a great favor.

Having depleted all undesirable scenes, chances are nine times out of ten titles will be suggested to make presentation of the remaining scenes more effective. Titles are a natural "bridge" for linking unrelated shots together thereby tying seemingly far-fetched scenes in interesting story telling sequence. To determine their worth in any particular film, all

No apology need be made when attractive titles, such as these on this page, are incorporated in your films. They are simple, effective, easy to read.

that is required is that the reel be projected, and any bit of action that causes the spectators to question *how*, *when* or *where*, titles are not only advisable, but a necessity.

One need not be a skilled artist to set up attractive title cards. Still photographs, magazine illustrations, and travel folders provide excellent background material, while letters can be traced from newspaper headlines, drawn free-hand, or typewritten. Commercially made letter outfits of wood, metal, and plastic, made exclusively for titling purposes are available at camera stores, whereas die cut, gummed paper letters in a variety of colors may be procured at the 5 & 10 cent store. Or, if the movie maker prefers not to fuss at all with making his own titles, there are many laboratories throughout the country offering titling services, with the customer furnishing but the copy.

Some filmers may be inclined to photograph their titles as they go along, but this usually is not the best practice, since hastily gotten together words seldom are as effective as those well planned to fit the occasion. There are exceptions of course, as in the case of "natural" titles, such as highway markers, townlimit signs, hotel marquees, etc., which must necessarily be filmed "on location." Sometimes, if cleverly used, these "on the spot" titles are most appropriate.

As a person becomes better acquainted with the pleasures of titling he will strive for the more elaborate effects of the pro-

(Continued on Page 392)

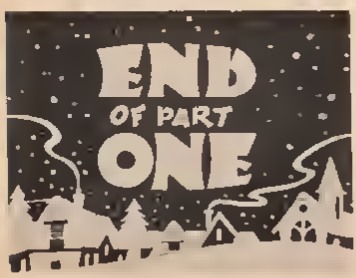

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Photo Products Dept.

DUPONT

Lucite and Lantz Come Through

(Continued from Page 373)

As to the actual operation of shooting through Lucite, Lantz offers a simple comparison: suppose you remove the gold case from your watch, enclose it in a transparent material, then observe the inner workings of the watch's mechanism. That's about the effect accomplished in those training films.

Lantz estimates that, with this new process, the time required to make a picture was cut one-fifth, the cost one-tenth. His studio turned out twenty-two pictures in twenty-eight months, and of course that was in addition to his regular Cartunes. His staff had to be augmented, but not considerably, for with this process four men were able to do the work of thirty men in animation. It eliminated inking on celluloids, painting, air-brush work and drawing of backgrounds.

The government furnished complete scripts and also sent their technical advisors for every subject covered, and these experts supervised every set-up before it was shot.

Lantz thinks the Navy has done a tremendous job in its wartime film production. So has the Army, of course, but they were better equipped at the beginning of the war, having an already operative Signal Corp that immediately went into the production of training films. The Navy had no such organization and had to start from scratch. The Army turned out more films, but even so the Navy Department made over 900 pictures per year during the war. A staggering figure, when you consider that the entire annual output of Hollywood is about 450 features.

Films made by Lantz, plus the actual models for display purposes, are now in use by the government. The government, thinks Lantz, has gained lots of sound, usable technical experience through these developments of his and other producers. Particularly have they benefited in the field of teaching. Undoubtedly, training of both Army and Navy personnel in the future, will largely be undertaken via the approved training film. Previously, all classwork training was given via the usual instructor, textbook, road. Now, while instructors and textbooks will not be discarded, neither will they carry the full load. They will be augmented in most helpful fashion by training films, which will be an integral part of every course.

Time required to master any subject will thus be cut to a minimum, no longer will the instructor be required to draw elaborate charts and graphs on blackboards to explain technical points from textbooks. That will all be covered—and amply—in the training film.

Industry, too, will greatly benefit from this new method, avers Lantz. With a technique for showing internal operation of any machine: whether automobile, sewing machine, refrigerator, vacuum cleaner, etc., a new field has been opened to industry. Much of the strife that arises among workers in factories from a misunderstanding of their jobs will be eliminated. Manufacturers will be able to instruct their personnel as to the actual operation of the device or utility they are manufacturing. In large factories, where thousands of men work on one small—and to them unimportant—job, ignorant of what preceeds and follows it, enlightening knowledge can be given to such employees through these films.

It would take years of study and research to master all of the operations that go into the creation of some of our modern machines, and no working man has that much spare time to devote to such an undertaking. But with the motion picture, he can be shown the operation of the plant generally, and his own part in it. While his job may have seemed trivial and unimportant before, when seen in the light of the whole operation, his job would take on added significance.

Lantz believes that the animated cartoon is better able than live action to make such films, because effects impossible to obtain with live action pictures can be accomplished easily and well with animation.

He also thinks that in the near future the government will wish to furnish pictures to the rest of the world. Films sanctioned by government and by various philanthropic groups on a variety of subjects such as hygiene, disease prevention, the cure and remedy of disease, and so on, will increase both in number and in distribution.

As to films made for foreign consumption, he thinks that's as good a place as any to get in some of our American propaganda. Lantz feels very keenly on the subject of Democracy, U. S. A. style. There's nothing wrong, to his way of thinking, with democracy, or in all of us doing a little more sincere, honest flag waving. In fact, he thinks we, as a nation, do entirely too little of it, and sees no reason why we should wait until we are embroiled in war to start thinking of the Star Spangled Banner. It Lantz had his way our National Anthem would be played at least once an evening in every theater in the land.

As to the importance of the use of films for educational purposes, Lantz grows enthusiastic. Every school has its vocational department, and these films will be of tremendous help in departments particularly where such subjects as electricity, carpentry, work shop are taught. He believes it is only a question of a couple of years when every school will be equipped with these films, which will be an important part of their training program, starting with kindergarten and continuing throughout every grade. Today's four year's study course could be cut to one year with such educational films, in Lantz' opinion.

Another thing of great value, not only to our youth, but to our future as a nation, is some good, fundamental groundwork in American history, and what it means to present-day American life. Lantz would like to see every school teaching our history through educational films. By that he doesn't mean that the School Boards should spend a couple of million dollars on a film showing Washington crossing the Delaware.

He means short subjects with a purpose—a definite objective behind each picture. Something, he says, with "a little glamour, a little dressing." Show short incidents, make them vital, real, alive. Show why certain things in our history happened as they did, how they happened, what they mean to us as a nation.

In this suggested program, Lantz would include up-to-date lessons on topics like "Why Do We Have Taxes?" and show why it is necessary. Subjects like that. Make our youth proud of the fact that they're United States citizens. Show them reasons why, instead of griping, they can all contribute something of a constructive nature to their government. Most of us are too lazy, says Lantz, we gripe but that's about all. The best way to improve conditions, is to know more, to be better equipped to help. To hasten this happy state of affairs, educational films are of prime importance.

When asked if his new process would help in the production of his regular Cartunes featuring Woody Woodpecker, Andy Panda and Wally Walrus, Lantz shook his head dolefully.

"No, I'm afraid not," he said. "We still haven't figured out a sure way of shortening our work on making cartoons. It's just a tough grind and we have to keep on plugging. Start cheating on cartoons, and they become jumpy and the cheating shows. Frankly, though I love the business, I've got to admit it's one heluva way to earn a living!"

Say It With Titles

(Continued from Page 390)

fessional movies. Interesting titles with action backgrounds are results of double exposure. There are many other possibilities, even with the most limited of equipment, if but a little ingenuity is used.

Titles should always be used skillfully and sparingly. Copy should be brief and to the point. Often a humorous touch livens interest in what might otherwise be dull reading. It's a remarkable film, indeed, whose continuity is so flawless, whose editing is so perfect, that titles are totally unnecessary. Even in such a rare exception however, an *introductory* and *end* title are always in good taste. If a film is worth presenting at all, it's worth presenting well. So, next time your movies have something to say and they lack just what it takes to do it, let them say it with . . . titles!

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for Black and White and Color Photography

The Baby Keg-Lite,
500 or 750 Watt Spot

THE BABY KEG-LITE (shown above) is a lightweight 500 or 750 Watt spot for use as a key light, and for special lighting jobs. Sturdily built, the design assures low temperatures, uniform heat expansion and elimination of heat noises. All light ranges between a 4 degree spot and 44 degree flood, controlled by a small lever from front or back. Fresnel type lens gives maximum light pick-up. Stand extends from 4 2' to 8'6". Total weight 25 pounds.

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B & M Lighting Equipment was originally designed for color as well as black and white. Our engineers, in consultation with the ace camera men of Hollywood, have evolved a complete line of lights and accessories which meet every requirement of the Motion Picture Industry. War production has developed added improvements which have made our spots better than ever.

B & M Lights are efficient and noiseless. They operate at a low temperature and the optically correct lenses permit full illumination with a smooth field which can be controlled for all requirements. They are the accepted standard for excellence throughout the industry.

Place orders now for early delivery. No priorities required.

Write for literature describing the Baby Keglite, The Dinky-Inkie, The Junior Spot (1000-2000 Watts), The Senior Spot (5000 Watts), the Single and Double Broads, and their accessories

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16-mm prints in 72 hours. Full fidelity of sound and definition . . . often excelling the original. "Byron-ize" your prints for perfection.

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M Sgt. Fred Mandl Gets Army Honor

M/Sgt Fred Mandl, member of the American Society of Cinematographers, and resident of Los Angeles, has been awarded the Certificate of Merit for his service with the United States Army Signal Corps in the European theater of operations.

Sergeant Mandl's citation was presented for outstanding performance of military duty while serving as an instructor in combat photography. By his expert knowledge of the military problems involved, and his qualifications and experience along the lines of combat motion picture coverage, Mandl was highly instrumental in evolving a successful plan of operation for motion picture cameramen in the field.

Now It's Major Warrenton of the Army Air Forces

Gilbert Warrenton, A.S.C., who has been in the Army Air Forces for the past three years, has just been promoted to the rank of Major. He has no idea when he will be released from the service.

Dr. Clark Promoted

The Du Pont Company has announced that Dr. John M. Clark, assistant production superintendent of the Chambers Works, Deepwater, N. J., has been appointed to the newly created position of general superintendent of the Photo Products Department with headquarters in Wilmington, Del.

A native of Chicago, Dr. Clark is 38 and a graduate of Cornell University. He received his master's degree in industrial chemistry in 1931 and his Ph. D. degree two years later. Immediately afterward he joined the Du Pont Company as a chemist in the Organic Chemicals Department. He has been at the Chambers Works since that time.

New Optical Printer For Telefilm

Joseph A. Thomas, president of Telefilm has announced completion of an optical printer, used for special effects. It is one of the few optical printers employed in 16mm production in the industry and includes several improvements made by Telefilm Engineers.

Color Photography Calls For Good Lighting

Color photography is really coming into its own, now that the war is over. All of the cumulative developments which were being held in abeyance "for the duration", are now being released for public and commercial use. These developments have been so revolutionary, and the results so satisfying, that black and white photography may be as much of a curiosity as the tintype in the near future. Sure! We'll have black and white photography, but there will be less excuse for it.

In color, however, there is one requirement which must be met at all costs: *adequate lighting*. Fortunately, the development of certain locally manufactured lighting equipment has been well in advance of this requirement for the past 15 years. Bardwell & McAlister Inc., of Hollywood, one of the pioneer firms in this field, has maintained intimate contact with the ace cameramen of Hollywood, and B & M Lights have been designed to keep pace with the exacting requirements of the Motion Picture industry.

C. Bardwell, Executive Vice President of the company, who has been in the business since the days of Erich von Stroheim's "super-colossals", points out "that mere candlepower is not enough for good color photography. Light must be controlled. Special lenses, such as are used in B & M lighting equipment, are necessary to eliminate 'hot spots' which would ruin the most careful setup. On our lighting units, from the Baby Keg-Lite and the Dinky Inkie, to the 5,000 Watt Senior, it's possible to focus light from a four degree spot to a 50 degree flood, giving a smooth, even field which is ideal for either color, or black and white.

"Again, for keeping the light within desired areas, they have developed 'Barndoors', 'Foco Spots' and other accessories which assure the desired control."

Bardwell and McAlister have devoted their entire output to war production since 1940. Three times the Army-Navy "E" has been awarded to their employees for excellence in turning out war materiel. Their enormous production for Uncle Sam has brought out many new developments in their products which it is claimed have materially improved them.

These lights have now been released from priority restrictions and are available for civilian use. Production of the new models is being speeded up daily, to fill orders from photographers who have been forced to operate with what they already had *'for the duration"*.

Fairchild Honored

Fairchild Aerial Surveys, Inc., Los Angeles, has received an award from the U. S. Army Map Service "for excellence in production of maps for the armed forces."

Congratulations

to the

American Cinematographer

on its

25th Anniversary

TECHNICOLOR MOTION PICTURE CORPORATION

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WITH THE

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PROFESSIONAL MOTION PICTURE EQUIPMENT

WITH the introduction of the new Maurer 16-mm Professional Motion Picture Camera and its companion, the new Maurer 16-mm Sound Recording System, expensive, complicated equipment is no longer required to produce films of top professional quality.

Though its results are not surpassed by the finest Hollywood apparatus, its many technical advancements make this new Maurer 16 mm equipment remarkably simple in set-up and operation. Various mechanical difficulties that can develop from complex design and construction are reduced to a minimum. The fire hazard is eliminated, and the savings effected in time, film and other forms of money will pay for this advanced Maurer 16-mm equipment over and over during its many years of trouble free, top quality performance.

Send for full details and specifications. Address Dept. C-11.

ARMY (E) NAVY

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Three Travel Films for P.A.W. Airways

Three new travel films, in color, have just been completed for Pan American World Airways by The Princeton Film Center. Production of the new subjects was supervised by the Motion Picture Department of J. Walter Thompson.

Designed to stimulate public interest in various areas served by the far flung lines of the Pan American System, the new motion pictures deal respectively with Alaska, Bermuda and Latin America.

All of the films feature interpretive musical scores which were specially composed and recorded for these pictures. Early release of the subjects to audiences throughout the nation is planned.

Near East Market

Near East countries can provide a rapidly expanding market for American motion pictures and for American theater and recording equipment, according to R. E. Gowar, manager of Western Electric Company (Near East) who has just arrived in this country from Egypt. This market, Mr. Gowar says, depends, of course, on early solution of the monetary exchange problem and the resulting modification in existing import restrictions.

BUY MORE VICTORY BONDS

The History and Origin of 16 Millimeter

(Continued from Page 384)

major share of the honors. The first few years of 16 millimeter were far from rosy. There was a period when the Eastman responsibility of supplying and processing the film was a liability to that corporation. Eastman Kodak Company however, never faltered in its self-assumed responsibility. We owe much to this company for the present high standard of quality and the world-wide service it has given. Last, but not least, a tribute must be paid to Bell and Howell of Chicago, who introduced the first spring driven 16 millimeter camera, doing away with the tripod—a very important item in the success of 16 millimeter, and, in addition with a great deal of courage, invested heavily in a nation-wide advertising campaign.

When sound was added to motion pictures, I conceived the Continuous Sound Reduction Printer, which made sound on 16 millimeter film a practical reality. Today almost every foot of 16 millimeter sound film is made under this process which, while much publicized at the time of its introduction, was not patented. My reason for not patenting this basic idea was to speed up the production of film so that we and the others in the apparatus business would find a larger market for our product. While the Radio Corporation of America must be given credit for having put the first commercially-acceptable sound on 16 millimeter, this sound track was re-recorded on 16 millimeter negatives and printed by contact. In my Reduction Printer the sound was printed directly by reduction from 35 millimeter, obviating the cost of making a special negative.

Since that time there have been many improvements and refinements in the design and construction of 16 millimeter equipment and there will be further improvements in the days to come. Sixteen millimeter today has become one of the great industries.

Almost daily new uses and applications are found for the 16 millimeter camera and projector. America, in the post-war years, will benefit from the work we in the industry have achieved in the past, the experiments we are carrying on today and the discoveries and inventions that still lie in the future.

"Holland Carries On" Acquired by I. T. & T.

A new film on Holland has just been acquired from the Netherlands Government by the Instructional Films Division of International Theatrical & Television Corporation and will shortly be released for national distribution by that Company. The film, "Holland Carries On" is a two-reeler, sound, with running time of approximately 18 minutes and was produced by the Netherlands Information Bureau, New York City.

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Special Effects for the Amateur

(Continued from Page 398)

exploration If one is fortunate enough to possess a camera in which there is sufficient space for fitting a mirror or prism behind an aperture in the gate pressure-plate, it would be found well worth while to have such an alteration made, since one may then make direct focussing and framing adjustments through the lens onto a piece of matt film, much increasing the scope of the camera. Unfortunately, however, the majority of sub-standard movie cameras are designed with a view to compactness, which demands utilization of every square centimeter for the essential parts Only the higher priced models so far embody the refinements which lend any degree of flexibility Hence the necessity for amateurs to apply brainwork in order to circumvent such constructional deficiencies It is regrettable that a low priced but versatile camera has not yet appeared, and we may hope that some enterprising manufacturer will place a low-priced, versatile instrument on the post war market In seeking to accomplish effects by means independent of camera gadgets and devices, we may consider the following, in the sequence given

PHOTOGRAPHING A PHOTOGRAPH
PHOTOGRAPHICALLY PRODUCED SCALE MODELS.
FALSE PERSPECTIVE
INTERPOSED SCREEN.
BLACK SCREENING.
COLOR TONING AND DYEING

Photographing a Photograph

So long as the scene calls for no action, a photograph of sufficient clarity may be set up and successfully rephotographed by the movie camera. To illustrate one use of such a subterfuge, the writer will relate a personal experience, wherein he saved much time when making an "Industrial" in England in 1935-6 The film in question called for the illustration of a certain point by a brief panoram shot of the interior of a large radio transmitter-station While permission to gain entrance to such a station was obtainable, a lengthy journey would have been necessary Furthermore, we did not possess sufficient lighting equipment to illuminate such a large area and our shot required only to be of the utmost brevity These considerations discouraged the trip

Finally we hit upon the plan of asking the publicity dept. of the B B C for a large panoram photograph of one of the transmitter installations. This was supplied for a small sum and the picture was set up before the movie camera in the same manner as a title, then a very slow "pan" shot was taken of the scene in the "still" The result was astounding and was quite indistinguishable from the shot one would have expected had the movie camera been set up on the actual location.

The trick of panning briefly and slowly gave the effect of life and realism. This leads us to our next suggestion,—so far untried by the writer,—but based on the success of the foregoing,—

Photographically Produced Scale Models

In view of the fact that the power of suggestion, through association of ideas, is so potent a feature of cinematics, it is customary to take advantage of the possibilities lying therein to the fullest extent, not only for the presentation of the story in general, but also as a time and money saver for the producer. This is particularly the case where a long shot is to be taken in sequence with a CLOSE UP of what purports to be a portion of the same scene The scene depicted in the long shot may be a huge viaduct, a boat, a city street,—but if it is of a nature difficult to obtain or to stage in any other form, use is made of scale models. Only the exceptional amateur cine photographer, however, can boast the skill or afford the time to build models, with a sufficient degree of scale accuracy and surface finish, to adequately fool the camera, and it is here that photography might conceivably again come to the rescue

Through the use of a good view or graflex type of camera, scale photos could be taken of the various facings of the objects required for one's model, cut-outs made and the edges stuck together to form the models desired One can visualize the building of a complete miniature "set" by such means — a "photographic model" shack, mounted on sand, with "photographic trees," fences, etc. placed around about,—and all much more accurately produced than their equivalent made by handicraft

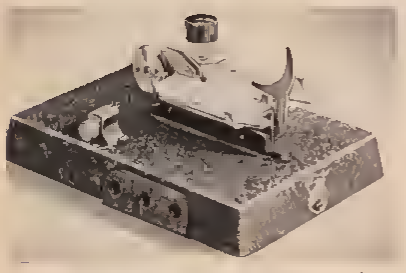
Sets With False Perspective

False perspective may be used where a full size or a miniature set is to be built in a limited space or where full size objects are not obtainable,—although it will involve the operator in some careful calculating and preparation

Suppose one has to establish a set representing the interior of a church, a temple, a dance floor, or the like, in an area much less in length than that to be represented in the finished film. "False perspective" may be built into the set by such tricks as converging the walls, floor-mats, foot-walks, hanging lamps, etc. and placing door and window frames (at the background) of dimensions which would be accurate for a room of the length to be represented,—not the *actual* length. Of course, such an arrangement demands that all action shall be confined to the foreground,—otherwise one might have a laughable if not disastrous situation!

Where it is necessary to depict large objects, vases, idols, etc, in the extreme foreground and provided such need not necessarily appear in sharp detail, quite small models may be placed very close

DIAGONAL SPLICES Are Stronger...MORE PLIABLE



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Basic unit of the B&H Add-a-Unit Editing Equipment, the B&H Film Splicer Model 136 makes available to the amateur the same fast, easy splicing procedure offered by B&H Laboratory Splicers It makes the strong, pliable *diagonal* splice that means greater permanence and, with sound films, quieter passage through the sound drum For 16mm silent, 16mm sound, and 8mm film

B&H Film Splicer Model 136

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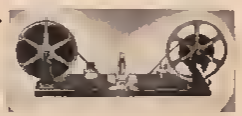

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to the camera lens. After one of two tests, a point should be found where the desired proportions are registered. There is considerable scope for experimentation along these lines. Mirrors, lenses, plain glass and prisms, may be employed in many instances, but such arrangements have already received considerable attention in various articles on titling and trick-work, and further enlargement here would be superfluous.

Interposed Screen

The writer has given this name to a scheme he devised but has not as yet given a trial. Its purpose is to permit the use of a matte box or any other utility in conjunction with an ordinary sub standard movie camera. By setting up an ordinary view camera (or graflex) one may find it possible to fit a matte box to the same, mounting the cine camera in an inverted position (so as not to disturb the movement-sequence) by means of a simple bracket behind the ground glass screen, for photographing the action cast thereon, as one would film a title. The writer sees no reason why this set-up could not be manipulated for a considerable range of transitions and "manufactured" impressions.

Black Screening

Circumstances may arise whereby sundry applications of black screening may be the easiest way around a difficulty. Since it is light that "paints our picture," absence of light, conversely, will fail to create an impression on the film, so that, in many instances, black screening may be used to take the place of masking before or behind the lens. It is already well known as an effectual means of producing "ghost" shots, but it may also be set up as a device for accomplishing multiple exposure.

A large black curtain or screen may, for example, be hinged on a thin, black support, dividing the center of the set vertically. The black curtain is first drawn to one side, closing off one half the set. An actor may then be filmed carrying out his business in the "open" half. When the act is completed, the film footage is rewound, (in a dark room if the camera has no rewind), the curtain changed over to the opposite side and the actor steps over to run through the additional act as his own complement. This method proves as reliable as that employing the use of masks or mattes.

Color Toning and Dyeing

Under this heading we would like to recommend, for amateurs at least, a revival of a film finishing custom which was very prevalent in early movies, but which has been almost entirely discontinued during recent years. In the production of "night scenes" modern professionals appear to have reached a unanimous agreement that the best results are obtained, in black and white filming, through judicious use of special lighting and filtering.

This writer feels, however, that at least insofar as amateurs are concerned, there is much to be said for the old system of blue toning or dyeing for portraying night scenes and for the use of orange/red dye for "fire" scenes. If carried out carefully, the latter reacts with realism and dramatic potency. Let it be explained that dyeing imparts a general coloration to the entire emulsion surface, while toning leaves the highlights clear and unstained.

Blue toning gives a good representation of bright moonlight, while a general blue dye over all will impart a good average "night" effect. The system of toning is particularly pleasing, since it not only leaves extreme highlights clear, but the various tones of the image absorb corresponding densities of color. Provided that the film is thoroughly clean and free from specks of dust, oil, grease, etc., the processes may be executed at any time, even years, after the film has been completed and developed, although it is far better that it is carried out prior even to a first run through a projector. The latter invariably will splash minute particles of oil onto the film, causing the dye to fail to adhere at these pin-points, with the consequence that a greatly enlarged image exhibited during projection will be marred by unsightly blemishes. The processes are simple, but require strict adherence to a few simple rules.

The film must first be thoroughly CLEAN. No dark room is necessary but, for long strips of film, a suitable drum or frame, with tank, must be prepared, on which the film can be found face downward. To allow for expansion of the film when it becomes wet, the ends should be attached by means of elastic bands. CAUTION: be sure that all ingredients are THOROUGHLY dissolved before use. Most materials can be secured at local drug and hardware stores, and they are inexpensive.

Blue Toner or Dye Formula

SOLUTION A

Potassium Ferricyanide	70 grains
Water	20 fluid ounces

SOLUTION B

Iron Ammonia Alum	80 grains
Oxalic Acid	95 grains
Water	20 fluid ounces

First immerse the film to be toned in a bath of clear cold water, to thoroughly soften the emulsion (about 5 mins.). Then immerse film in solution "A" till the image begins to turn yellow, then thoroughly rinse. Next, pour solution "A" into solution "B", mixing the two thoroughly and immerse the film in same till the desired color is obtained. If a general "dye" is desired, rinse the film briefly and drape lightly over some support to dry, face outward. If TONING is desired, wash film in running water for about twenty minutes, or until the highlights have cleared of all color. Foggy or veiled highlights will be difficult to clear. If full clearance is desired, this can be accomplished by a brief immersion in a reducing bath.

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Aces of the Camera

(Continued from Page 370)

mound Kershner, but could offer no help in the situation, for the photographer spoke no Spanish. After staring curiously at the equipment stacked on the platform, the Mexicans went into a huddled discussion and then disappeared.

The sweltering afternoon wore on and Kershner's friend had not arrived. Soon, however, several of the Mexicans reappeared, and one spoke to him in perfect English: "I shall take you to the gentleman you are to meet," he said, bowing slightly.

Kershner looked from the Mexican to a waiting automobile. In the front seat were propped a rifle and a shotgun. Strapped to the Mexican's side were a brace of authoritative-looking pistols.

In spite of a hunch to refuse the kind offer of assistance, Kershner piled his boxes of film and camera into the back seat of the car. After several miles over rough, dusty roads, the car drew up in front of a ramshackle adobe hut, where sleeping arrangements were made for the visiting American.

He slept soundly that night, exhausted from his trip and the long, anxious wait at the station platform.

In the bright tropical sun the next day, he discovered all his luggage and film boxes had been rifled while he slept. The Mexican bandits had believed the heavy boxes were filled with gold.

Kershner stepped quickly into the next room where he had left his camera standing in the corner. Half a dozen men sprang forward with lowered pistols and rifles. They believed the camera was a new type of machine gun. After several minutes of earnest conversation with the one Mexican who spoke English, he convinced the group that the "machine gun" shot nothing but pictures.

The Mexicans went wild with excitement and insisted that Kershner shoot reel after reel of films for their personal amusement. The results, he discovered later, were excellent. The completed film was titled "Between Friends." It so pleased Mexican officials that he was invited to Mexico to shoot photographs and motion pictures in eighteen different states, and returned to the United States with hundreds of feet of interesting film.

Later, in 1923, Kershner contributed an article and series of pictures to the American Cinematographer, which was published under the title "Picture Jaunts into Mexico."

In 1931, Kershner packed his camera for a jaunt to the north country to shoot Labrador and Baffinland in color. On the ship Bowdoin, manned by a good skipper and a crew of college men, Kershner crossed the Belle Island Straits to Labrador. When he sailed up past Hebron and Cape Chidley, he felt he had come to the last outpost of the world.

The Bowdoin was due for a rough trip in the Antarctic. When an iceberg hove into view, the man on watch called the warning, "Hard aport," or "Hard starboard." More often than not the Bowdoin chugged head on into the iceberg. Fortunately, the ship was built to stand the strain.

Plans for the expedition were to work the schooner to a base, and then wait for the chartered plane to contact them. When the plane arrived, equipment was loaded into the cabin, and Kershner and the pilot took off through the fog looking for something to shoot farther inland.

The plane was equipped with pontoons only, and the pilot depended solely on landing on the water. In the cold wasteland, it was impossible to set the plane down any other way.

During all the runs in the plane, the pilot flew the plane high enough so it would glide to the sea from any point inland at which the photographer was working. The procedure worked well when the wind was blowing off the water. When the wind shifted and came from the land, Kershner and the pilot ran into the toughest flying conditions. The water temperature stayed at about 28 degrees. When the warmer air from the land passed over it, an impenetrable fog resulted without the slightest warning, making it impossible for Kershner to get any shots for days at a time.

When the pilot spotted a veil of fog he shot into a dive down through the blanket of fog looking for water on which to land. It was then a case of waiting for the fog to lift, or "wave-hopping" back to the Bowdoin.

More outstanding in Kershner's memory than the hazardous conditions of getting his pictures, are the motion pictures he took from the plane of the Great Falls of Labrador, a feat never before accomplished. Glenn Kershner's greatest reward for the dangerous mission was not monetary, but an intangible sense of accomplishment and adventure.

His strange insatiable desire for adventure has taken him into countries around the world. He has tangled with timber wolves in Canada and bandits in Mexico.

He has photographed Mt. Vesuvius in Italy, and has received the *Diploma Di Collaborazione* for the best photographed picture of 1923. He went to Rome to photograph a large part of the Technicolor for the production, "Ben Hur."

He has been adopted by the natives of the Society Islands in the South Seas. They gave him the name "Manu Reva Mata Ara Ara," which means the bird that comes and goes, the bird that sees everything but never sleeps. He considers the South Sea islands the most beautiful place in the entire world.

He has been under water in a diver's outfit, and chased by sharks. He has lived with the Indians. He has frozen while running dogs in the far north, and boiled in safaris across the deserts. He has taken shots hanging on fire

trucks, trains, airplanes, and the brink of a volcano. He has learned to expose ten feet of film in the dark mountains, the next ten feet on a hot desert, the next ten in a driving rain storm, and the next with Kleig lamps—all on the same film.

He has published a book, "Brown Barriers," a romantic novel of the South Seas

With all these adventures in foreign lands behind him, Kershner's most rugged ordeal took place in his own country.

He was a photographer on a motion picture that called for shots of river rapids The company set out for the Colorado River. A party of thirteen men started down the river in six small boats, measuring from sixteen to eighteen feet.

When they embarked on the river trip in Utah, men who knew the river warned the group that the trip through the Cataract Canyon would be impossible It was late in the season, and tributaries of the Colorado were frozen, and the great river itself was low and full of ice in many places

They worked their way down the Colorado to Cataract Canyon Very few men have ever come through the treacherous rapids alive.

Life preservers and determination brought the photographers and crew through the canyon, but the most desperate situation was yet before them Their short wave radio transmitter broke down, and they were out of touch with civilization Then the rations gave out

Then men were officially reported dead—drowned in the Colorado River rapids

Nearly a month passed by before they reached civilization, and when they finally returned, Kershner discovered the insurance companies were completing arrangements to pay off his life insurance policies

The picture company had the pictures it wanted!

Glenn has given up seeking adventure, at least for a while, and is working with Howard Anderson making every conceivable kind of trick photography shots. He is a master at trick photography, and many of the studios send their difficult jobs to Anderson Glenn is in his glory making the "impossible" shots come true on the screen and he's happy.

RecorDisc Announcement

Home movie makers who make their own "sound tracks" through the medium of home recording discs will be interested to know that the RecorDisc Corporation of 395 Broadway, New York City, have announced a new policy whereby they offer improved quality RecorDisc home recording blanks at lower prices This, contrary to present, generally prevailing upward price trends

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The Technique of the Documentary Film

(Continued from Page 378)

Indoor lighting, too, should be realistic, and this can largely be achieved by the duplicating of source lighting. Avoid over-artistic effects On a large set it is sometimes better to light the main area, or planes, of action, rather than to try to pour in enough light to flood the whole set Spots should be used as well as floods to give a more modeled effect The documentary cameraman, who usually has to get around fast, will find portable lights very convenient

Editing and Scoring

The last operation in the making of film, editing and scoring, is of utmost importance It is here that all the elements are welded into the filmic whole that will appear on the screen

The cutting of the film should be dynamic, in keeping with the style used in the script, direction and camerawork Cutting to the script is the surest way of preserving the quality that has been captured on the film

A documentary must have *pace*, but pace means more than cutting off short strips of film and splicing them together The pace of cutting depends upon the pace of filming For instance a bit of action that requires only ten frames for complete execution on the film, may be cut to ten frames without any loss of meaning But if you have a scene that is complete in fifteen feet and you hack off ten frames, you will have but a meaningless fragment of a complete action Thus the pace of cutting must be guided by the pace in filming

Many cutters, attempting to force pace into a film, succeed only in slurring over important points Pace should be gauged to the audience, and it should not clip along at a constant rate of speed A sequence should build to a climax, and then start over on a new sequence at a lower pace Light and shade in editing adds variety and audience interest.

One important feature of cutting is that it can condense the element of time and pack a great deal of action into a shorter space of time than is the case in real life When it is necessary to condense a broad general impression into a short length of film, *montage* is a very valuable device

The cutter's biggest job is to put the emphasis in the right places, and to keep the filmic story moving forward to its final resolution.

Closely allied to cutting is the sound dubbing of the film Documentary can be shot more easily and effectively if the sound is added later instead of directly during filming The narration should not repeat exactly what is shown on the screen, but should add a bit more from a different angle; so that, in reality, the audience is receiving two complementary impressions at once Proper music and sound effects will add immeasurably to the force of the film

The documentary is a vital motion picture form, one that has untold possibilities It has had an impressive beginning, but its future will be even more important

— — — —

New SMPE Officers Announced at Meeting

Newly elected national officers of the Society of Motion Picture Engineers and new officers of the Society's Atlantic Coast Section, whose terms of office will begin Jan. 1, were announced by Donald E Hyndman, president, at the opening of the society's 58th Semi-Annual Technical Conference in New York.

National officers with terms expiring Dec 31, 1945, and those elected to them for the ensuing year are Engineering vice president, J A Maurer, financial vice president, M Richard Boyer, secretary, Clyde R Keith, and treasurer, Earl I Sponable

Five members of the society were elected to the board of governors for terms beginning Jan 1, as follows From the Atlantic Coast area—Frank E Carlson, General Electric Co, Cleveland, re-elected, Alan W Cook, Ansco, Binghamton, N Y., and Paul J Larsen, Johns Hopkins University, Washington, D C; from the Pacific Coast area—John G Frayne, Western Electric Co, Hollywood, Calif., and Wesley C Miller, Metro-Goldwyn-Mayer Pictures, Culver City, Calif

Frank E Cahill, Jr., Warner Brothers Pictures, New York City, was named chairman-elect of the Atlantic Coast Section of the SMPE, and James Frank Jr, National Theatre Supply Co, New York City, was named secretary treasurer-elect

New managers-elect for the Atlantic Coast Section are Herbert Barnett, International Projector Corp, New York City, Hollis D Bradbury, RCA Victor Div, Radio Corporation of America New York City and Jack A Norling, Loucks and Norling Studios, New York City. Managers whose terms continue through 1946 are G T Lorance, W H Offenhauser, Jr, and H E White

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Mark Hawley Urges Audio Visual Program for Schools

By GEORGE BUTTERLY

EXPERIENCE with the production and use of teaching films in the Navy has convinced Mark Hawley of the crying need for a complete audio-visual program for the nation's schools.

The Public," he says, "has heard a lot about jet propulsion, television, new household appliances, air transportation and now atomic energy, with their probable effect on post-war domestic life. But, what about developments for post-war education?" Comments Mr. Hawley, "It should be realized that the integrated use of audio-visual aids in education is as important a step forward for civilization as was the printing press.

"The development of these modern methods and their application to teaching during the War will have a profound effect upon post-war instruction. Heretofore, the educational possibilities of radio, recordings and motion pictures have been obscured by entertainment, and it has been difficult to reconcile radio and the films with 'the little red school house.' Half-hearted attempts have been made to shower benevolence upon the teacher by making available to schools advertising pictures and old radio shows taken off the air on transcriptions. But the attempts at circulating such items has only served to make the teacher wary. She has discovered that the moving picture (sometimes pawned off as an educational film) was designed to sell merchandise—not to help her teach her students. She has found that the radio programs, while verging on some of the subject matter she is interested in—was designed for *entertainment not for teaching*. Besides, as purely supplementary material it takes too much time from her already full schedule.

"To present her with an acceptable audio visual program it is necessary to understand the technical complexities which comprise each of these media. The phonograph record, the film strip, the motion and still picture and the study guides are used most effectively as devices to amplify curriculum subjects—each in its own field. However, to understand why a motion picture lacks the effectiveness of a still picture in certain instances, or why a film strip might be more explicit than a movie, or why a set of records can be a better teaching tool than pictorial aids in some subjects—are problems which require a versatile knowledge and *experience* in all these fields of production and *knowledge* involving the technical, pedagogical and economic values of each."

Specifically, Mr. Hawley believes that the radio cannot be a substitute for the record where repetition and study are required. "However", Mr. Hawley continued, "the radio has its effectiveness in carrying the impact of the 'present', and in this it has no substitute and won't have until television is fully developed. What happens to radio then is still in the realm of speculation. It is already showing a tendency toward becoming more of a utilitarian service—filled with news reports, road conditions, weather reports—and music. If this should become the case, entertainment would be relegated to a secondary function of radio, with the Frequency Modulation stations and television stations gradually assuming radio's role in the field of entertainment.

"It is easy to understand how specialists could become so immersed in the development of their own particular field as to consider their specialty the 'be all and end all' as a mass medium for what ever purpose. In the light of the past four years, however, this is a rather limited view. It has also resulted in much confusion on the part of industrialist and educator alike who have earnestly sought the best medium with which to put their messages across to the public, the employee or the student. Often he has found himself the hub of a high pressure selling wheel, each spoke trying to convince him that the radio, the film or the film strip, were the best and cheapest method of reaching his audience.

The general practitioner approaches the field of audio-visual aids on the premise that the elements are complimentary and not competitive—and his objective is to use any or all audio-visual media to develop in his audience—whatever group it may be—a *more immediate* comprehension, (1) of a process, (2) a theory, (3) an historical event, (4) a psychological attitude or (5) a straight sales message.

"One of the greatest problems in this fast moving world is the time it takes to absorb background and technical knowledge and still keep abreast of the

(Continued on Page 404)

Mark H. Hawley, who recently served with Admiral Nimitz Staff as Assistant Officer in Charge of the Fleet Motion Picture Office in Pearl Harbor, has resumed his former post as President of Inter-Continental Audio Visual Corporation, producers of STI MIDISUS educational films and transcriptions.

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Mark Hawley Urges Audio Visual Program

(Continued from Page 403)

times Any device which helps the individual absorb and retain information is one very good answer to this problem Aural-visual aids can telescope cultural processes; likewise, they can provide the dramatic impact necessary to increase the power of retention The result can be an increase in the net intelligence of the present and future generations

"We emerge from this War where we might have been in 1960—had science and invention progressed at the same pace as when we entered the conflict. That an effective audio-visual training program be developed for our servicemen was a necessity of War Those so-called 90-Day Wonders, who skippered their own ships, the young bombers' pilots who—after a few months of training—were able to chart their courses and carry out bombing missions with pinpoint accuracy, were both the products of audio-visual training Navigation, seamanship, communications, radar, are but a few of the courses that used these modern training methods for our now victorious youngsters They are a generation of peace-trained high school and college youth, catapulted overnight into the grim business of war And, what a job they have done!

"We're on the threshold of a great new era of learning The process of coordinating these new teaching devices has already begun A complete audio-visual program based on curriculum subjects will be offered shortly to the schools It is not only our hope—but our sincere belief—that definite results can be expected within a very few years, and the 'Quiz Kid' of today is no smarter than will be the average American school child of tomorrow"

A MESSAGE
FROM
Goerz American

Now that peace has finally come to the world, we like many other manufacturers, are occupied with plans of replenishing our war depleted stock of lenses suitable for professional and ameteur photography

Because of the great many types and such a large number of focal lengths of each type, which will doubtless be in demand, the build up of our stock will naturally take time

Fortunately we are not facing any reconversion problems, because during the war years we were exclusively engaged in producing photo lenses for our Government

In the near future there will be announcements in the various photographic magazines regarding our progress in making available again through photo supply stores

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Off Priorities Again— "Professional Junior" Tripods

Civilians may now obtain "Professional Junior" tripods, Frank C. Zucker of Camera Equipment Co., New York City, announces.

Since the outbreak of war, "Professional Junior" tripods were on all fighting fronts, used by Army, Navy and Signal Corps photographers in many cases to take pictures for Government archives, and ofttimes for civilian use in newsreels of American reconquest from Japs

Because of their extreme ruggedness, versatility and light weight of only 14½ lbs, these small replicas of professional studio tripods, have proven that most of the finest pictures to come out of the war were photographed, even under battle conditions, by cameras mounted on tripods because in that way only can unwanted distortion and motion of the camera be avoided. The removable head feature of "Professional Junior" tripods allowed cameramen to quickly shift the pan and tilt head from standard tripod legs to low-base adaptors called "Hi-Hats" "Hi-Hats" allow picture taking from floor level, or when mounted in airplanes, the photography of aerial views even during actual combat

War-Time Research Will Be Theatre Aid

Prospects are bright for the early application of war-time research in the modernization of motion picture theaters throughout the world, E. S. Gregg, vice president and general manager of Western Electric Export Corporation told assembled managers at the company's first international conference recently at the Waldorf Astoria.

The thirty managers have gathered in New York from all parts of the world for a preview of the newest recording and reproducing equipments and other electronic products distributed by Export in the world market As Mr Gregg pointed out, through these latest designs of sound equipment, which embody advancements learned by Western Electric as one of the largest wartime producers of communications and electronic equipment, exhibitors will be able to provide new standards of excellence A public, patient during war, will expect rapid cancellation of any "rationing in quality" induced by the restrictions of a military economy.

At the opening session of the conference, T. K Stevenson, president of Export and vice president of Western Electric Company, welcomed the managers, many of whom are in the United States for the first time.

In addition to sound equipment, the managers will view and discuss during the two weeks convention the other products to be distributed abroad by Export These include a full line of theater accessories, booth equipment, the new Model 63 hearing aid, the Fastax Camera, acoustic instruments, and other products of research in related fields

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25 Years of Progress

(Continued from Page 378)

War I developed aviation; World War II opened up a new world of science. One improvement always forces the other. Television, for example, will force us to improve motion pictures

We are using today, many devices which are indispensable Optical printers, glass shots, matte shots, transparencies, miniatures, lap dissolves, split screen methods of combination all of these are indispensable For the most part, they are the outgrowth and refinements of those older patents which have been developed to their present day efficiency However, we cannot stand still Our pictures of today will not be acceptable five years from now The very fabric upon which this medium of expression is built, calls for constant growth, expansion, perfection

Developments for future motion pictures will, I believe, come in the main from men now within the industry and from the new blood of our nation's leading scientific workers brought into our industry to interest and apply themselves to our problems However, our industry is a heterogeneous composite of trained creative specialists and artists and we have learned long ago that for the best results, there is still no substitute for experience.

Our need now, as always, is for fullest cooperation and respect for each other's contributions Above all, there must be no conflict, open or hidden, between artistry, management, craftsmanship and the science of technology For among these, there is an essential necessity for underlying unity, the realization and encouragement of which is a fundamentally essential condition for the continued growth and success and achievement of this great industry

Wabash Announces Two New Flash Midgets

New to the trade and now available to the public for the first time since Pearl Harbor are two new Superflash Photo lamps which Wabash has been manufacturing for the U S. Government since 1941 Both are midgets in the same bulb shape and size as the Wabash Press 25

The No 25B, a blue Superflash for daylight color films, is announced as the most powerful blue midget flash ever made, with a total light output of over 14,000 lumen seconds It is designed for use with Daylight Ansco Color or Kodachrome Regular, at synchronized speeds up to 1/200th second, and operates on battery currents from 3 to 9 volts. It has a color temperature of 6,000 degrees Kelvin Its blue filter color has been especially developed to match with and substitute for daylight, to provide more faithful color rendition whether used in combination with natural daylight or indoors as a substitute It will be a welcome addition to the standard No 2B and No 3B color flashbulbs

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Of The American Cinematographer, published monthly at Los Angeles California for October 1st 1945

State of California }
County of Los Angeles } ss

Before me a Notary Public in and for the State and county aforesaid personally appeared Hal Hall who having been duly sworn according to law, deposes and says that he is the Editor of the AMERICAN CINEMATOGRAPHER and that the following is to the best of his knowledge and belief a true statement of the ownership, management (and if a daily paper, the circulation) etc. of the aforesaid publication for the date shown in the above caption required by the Act of August 24, 1912 as amended by the Act of March 3 1933 embodied in section 537 Postal Laws and Regulations, printed on the reverse of this form, to wit:

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(Signed) HAL HALL, Editor

Sworn to and subscribed before me this 28th day of September 1945

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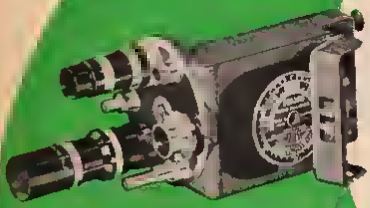

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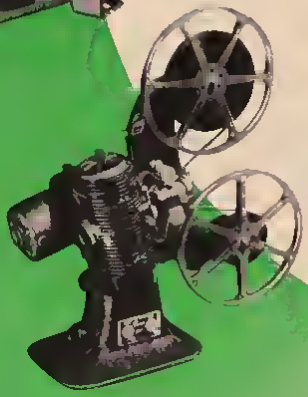

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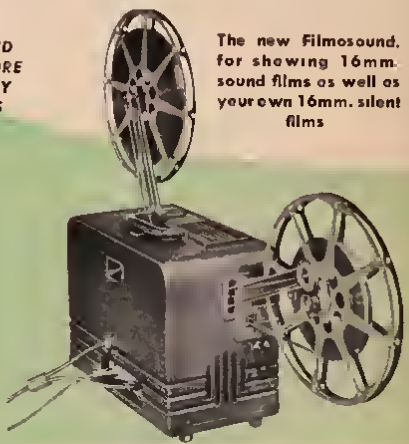

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